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

In the Matter of	)	
	)	
Service Rules for the 698-746, 747-762 and 777-792 MHz Bands	)	WT Docket No. 06-150
	)	
Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems	)	CC Docket No. 94-102
	)	
Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones	)	WT Docket No. 01-309
	)	
Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services	)	WT Docket No. 03-264
	)	
Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules	)	WT Docket No. 06-169
	)	
Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band	)	PS Docket No. 06-229
	)	
Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010	)	WT Docket No. 96-86

REPORT AND ORDER AND FURTHER NOTICE OF PROPOSED RULEMAKING

Adopted: April 25, 2007 **Released: April 27, 2007**

By the Commission: Chairman Martin and Commissioners Copps, Adelstein, Tate and McDowell issuing separate statements.

Comment Date: [21 days after publication in the Federal Register]
Reply Comment Date: [28 days after publication in the Federal Register]

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Heading Paragraph #

I. INTRODUCTION

1. In this Report and Order and Further Notice of Proposed Rulemaking ("Further Notice"), we address rules governing wireless licenses in the 698-806 MHz Band (herein, the "700 MHz Band"). This spectrum currently is occupied by television broadcasters in TV Channels 52-69 and is being made available for wireless services, including public safety and commercial services, as a result of the digital television ("DTV") transition.

2. We are revisiting these rules due to the significant changes that have occurred over the past several years in the statutory framework governing this spectrum, the continuing advances in a rapidly developing market for wireless communications, and the needs of the public safety community. Perhaps most importantly, the Digital Television Transition and Public Safety Act of 2005 ("DTV Act")[1] set a firm deadline for the end of the DTV transition of February 17, 2009, at which time this spectrum will be fully available for public safety as well as commercial wireless services. It is incumbent on the Commission to take all the steps necessary to make this spectrum effectively available to both public safety as well as commercial licensees as of the end of the DTV transition. In addition, the DTV Act established two specific statutory deadlines for the auction of the 60 megahertz of "recovered analog" spectrum in the 700 MHz Band: (1) the auction must begin no later than January 28, 2008, and (2) the auction proceeds must be deposited in the Digital Television Transition and Public Safety Fund by June 30, 2008.

3. The past several years also have seen substantial changes in the wireless communications market. Many innovative wireless services and technologies have emerged, while at the same time prices have fallen, to the benefit of consumers. For example, in the past five years, there have been 100 million new subscribers to mobile telephony services.[2] There also has been unprecedented growth in the demand for and the provision of wireless broadband services. This may be seen in the number of Americans using mobile devices capable of accessing the Internet at broadband speeds, which has grown from fewer than 100,000 in June 2000 to over 11 million in June 2006.[3] Among the providers serving these consumers,

[1] *See* Deficit Reduction Act of 2005, Pub. L. No. 109-171, 120 Stat. 4 (2006) ("DRA"). Title III of the DRA is the DTV Act.

[2] During the past five years, the number of new mobile telephone subscribers rose by more than 100 million, from 118.4 million in June 2001 to 219.4 million in June 2006. This represents an 85 percent increase in the total number of subscribers. *See* "Annualized Wireless Industry Survey Results – June 1985 to June 2006," CTIA's Semi-Annual Wireless Industry Survey, CTIA – The Wireless Association, *available at* http://files.ctia.org/pdf/CTIA_Survey_Year_End_2006_Graphics.pdf

[3] *High-Speed Services for Internet Access: Status as of June 30, 2006*, Industry Analysis and Technology Division, Wireline Competition Bureau, Federal Communications Commission (Jan. 2007) at Table 1.

those offering mobile wireless broadband services now operate in counties containing 63 percent of the population of the country.[4]

4. Similarly, the needs of those who use public safety spectrum also have evolved in recent years. As described below, we are particularly cognizant of the benefits to the public safety community of wireless broadband services. We expect that modern public safety services will increasingly depend on the advanced communications provided by wireless broadband technology to enable public safety entities to perform their vital safety-of-life and other critical roles.

5. The Commission has been considering rules related to the use of this spectrum in three ongoing proceedings: (1) the 700 MHz Commercial Services proceeding,[5] (2) the 700 MHz Guard Bands proceeding,[6] and (3) the 700 MHz Public Safety proceeding.[7] Because decisions on certain issues in the three proceedings are potentially interrelated, we address them jointly in this Report and Order and Further Notice. In so doing, we seek to promote access to 700 MHz Band spectrum and the provision of service to consumers across the country, including in rural areas, as well as opportunities for broadband service for public safety users. We are seeking expedited comment on the issues in the Further Notice, with the intent of finalizing the key decisions quickly given our auction-related statutory deadlines.

6. In the Report and Order, we make a wide variety of decisions on key issues presented in the 700 MHz Commercial Services and the 700 MHz Guard Bands proceedings.[8] With regard to the 700 MHz Commercial Services proceeding, we decide to adopt a mix of geographic license area sizes for the commercial services, including Cellular Market Areas (CMAs), Economic Areas (EAs), and Regional Economic Areas (REAGs). With regard to auctions-related issues, we find that our existing competitive bidding rules do not require modification for purposes of an auction of commercial 700 MHz Band licenses. To minimize uncertainty for licensees in this band, we eliminate the rules that permit comparative hearings for license renewal and clarify the requirements and procedures of the renewal process for 700 MHz Band licensees. In addition, we shift the termination date for initial license terms from January 15, 2015, to February 17, 2019, thus giving licensees an initial term not to exceed ten years after the end of the DTV transition. With regard to radiated power limits, we generally adopt a power spectral density (PSD) model, with certain limitations, to provide greater operational flexibility to

[4] The FCC estimates that as of mid-2006, the mobile broadband network technologies CDMA EV-DO and WCDMA/HSDPA had been deployed in counties containing 63 percent and 20 percent of the U.S. population, respectively. *See* Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, WT Docket No. 06-17, *Eleventh Report*, 21 FCC Rcd 10947, 10995 ¶ 117 (2006) (*Eleventh CMRS Competition Report*).

[5] *See* Service Rules for the 698-749, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems and Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, CC Docket No. 94-102, WT Docket No. 01-309, *Notice of Proposed Rule Making, Fourth Further Notice of Proposed Rule Making, and Second Further Notice of Proposed Rule Making*, 21 FCC Rcd 9345 (2006) (*700 MHz Commercial Services Notice)*.

[6] *See* Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket Nos. 06-169 and 96-86, *Notice of Proposed Rule Making*, 21 FCC Rcd 10413 (2006) (*700 MHz Guard Bands Notice*).

[7] *See* Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, PS Docket No. 06-229, WT Docket No. 96-86, *Ninth Notice of Proposed Rulemaking*, 21 FCC Rcd 14837 (2006) (*700 MHz Public Safety Ninth Notice*); Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96-86, *Eighth Notice of Proposed Rulemaking*, 21 FCC Rcd 3668 (2006) (*700 MHz Public Safety Eighth Notice*).

[8] *See infra* Section III.

licensees operating at wider bandwidths, and we provide for higher radiated power levels for these 700 MHz Band licensees operating in rural areas. We continue to allow a 50 kW ERP level for base station operations for already auctioned licenses and for unpaired spectrum in the "Lower 700 MHz Band" (TV Channels 52-59) but conclude that we should modify such power limits for paired spectrum in that Band to match the limits adopted for the "Upper 700 MHz Band" (TV Channels 60-69) in order to better enable mobile service on that paired spectrum. In addition, in order to accommodate emerging technologies, we permit these 700 MHz licensees to meet radiated power limits on an average, rather than peak, basis.[9]

7. In the 700 MHz Commercial Services proceeding, we also modify our 911/E911 rules to remove the service- and band-specific limitations on the applicability of those requirements. As amended, these rules will apply to all commercial mobile radio services (CMRS), no matter what spectrum is employed, to the extent that a service meets the scope requirements in our current rules.[10] Similarly, we find generally that all digital CMRS providers, including providers in the 700 MHz, Advanced Wireless Services (AWS), and the Broadband Radio Service/Educational Broadband Service (BRS/EBS) bands, along with manufacturers of handsets capable of providing such services, should be subject to our hearing aid compatibility requirements to the extent that a service satisfies the scope provision in our current rules, and we amend our rules to incorporate this finding. By statute, however, we cannot impose hearing aid compatibility requirements for a band or service until applicable technical standards have been established. In recognition of the pressing need to develop applicable technical standards in certain frequency bands for which service rules have been or will soon be established, and given that the process of developing such standards has already commenced, we establish a 24-month timetable for the development of standards in these bands by all interested stakeholders.[11]

8. With regard to the 700 MHz Guard Bands proceeding, we adopt certain measures to encourage the most effective and efficient use of the spectrum designated as guard bands in the 700 MHz Band ("Guard Bands spectrum"). Specifically, we replace the current "band manager" leasing regime with the spectrum leasing policies and rules adopted in the Secondary Markets proceeding to provide Guard Band licensees and spectrum users additional flexibility to enter into spectrum leasing agreements. We also eliminate restrictions that prevented Guard Band licensees from using their spectrum as a wireless service provider and restricted their ability to lease to affiliates.[12]

9. In the Further Notice, we make proposals that are intended to enable the Commission to offer at auction a wide variety of licenses and best enable the provision of service to consumers across the country. We propose not to alter the spectrum blocks as currently aligned in the Lower 700 MHz Band, and to license the A Block on an EA basis, the B Block on a CMA basis, and the E Block on an REAG basis. As regards the commercial spectrum in the Upper 700 MHz Band, we seek comment on several band plans, and on the appropriate sizes of the license blocks and geographic service areas for these licenses.. We also propose new performance requirements for the unauctioned commercial licenses in the 700 MHz Band based on the use of specific geographic coverage benchmarks.

10. We tentatively conclude not to adopt certain proposals in connection with the 700 MHz Guard Bands spectrum, advanced by parties seeking a restructuring of the existing band plan for the Upper 700 MHz Band that would include a reallocation of the Guard Band spectrum, including the

[9] *See infra* Section III.A.

[10] In conformity with the Commission's decision in the *E911 Scope Order,* however, we will continue to exclude Mobile Satellite Service (MSS) from the specific requirements of 47 C.F.R. § 20.18. *See* Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket 94-102, IB Docket No. 99-67, *Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 25340, 25347-57 ¶¶ 20-39 (2003) (*E911 Scope Order*).

[11] *See infra* Section III.A.2.c.

[12] *See infra* Section III.B.

"Broadband Optimization Plan" (hereinafter the "BOP").[13] While we are seeking to establish rules and policies that provide licensees greater flexibility where possible, we tentatively conclude that, at least before the end of the DTV transition, we do not have the legal authority to adopt such band reallocation proposals and that such proposals would not serve the public interest. We do, however, seek comment on other measures to promote the most efficient and effective use of the Guard Bands spectrum. Specifically, we seek comment on what additional rule changes we should make to the 700 MHz Guard Bands in the event that we decide not to adopt our proposed commercial services band plan or other proposals under consideration.

11. With regard to the 700 MHz Band spectrum allocated to public safety ("Public Safety spectrum"), we tentatively conclude to redesignate the wideband spectrum to broadband use consistent with a nationwide interoperability standard, and to prohibit wideband operations on a going forward basis.[14] Should we end up adopting this broadband approach, we tentatively conclude to consolidate the 700 MHz Public Safety spectrum, with the narrowband spectrum being consolidated to the top of the public safety allocation, and the broadband spectrum located at the bottom of the public safety allocation.[15] These tentative conclusions, in conjunction with our proposal in the *700 MHz Public Safety Ninth Further Notice* to establish a national public safety licensee, further our efforts to establish nationwide interoperable wireless broadband for public safety.

12. Finally, we seek comment on a proposal, the "Public Safety Broadband Deployment Plan," recently filed by Frontline Wireless, LLC ("Frontline").[16] While we have an extensive record on many of the issues raised by Frontline, such as the appropriate size of spectrum blocks, we do not have a record on some of the significant service rule changes Frontline proposes that we adopt for a commercial spectrum block that would be located just adjacent to the current 700 MHz Guard Band B Block. We seek comment on aspects and implications of the Frontline proposal to establish such a record.[17]

II. BACKGROUND

13. In this background section, we briefly discuss the DTV transition, which will reclaim the 700 MHz Band for new uses, including commercial and public safety services. We then describe the portions of the 700 MHz Band that will be associated with new commercial and public safety services, as well as guard bands to protect public safety. Finally, we describe a new proposal, very recently submitted by Frontline, that would modify the service rules associated with part of the commercial spectrum.

A. DTV Transition and Reclamation of the 700 MHz Band

14. The frequencies considered in this order are part of 108 megahertz of spectrum in the 700 MHz Band (Television Channels 52-69 in the 698-806 MHz band) that will be made available as part of the digital television (DTV) transition.[18] By the end of this transition, all analog television transmissions in this band will have terminated, and all digital television transmissions will be in the spectrum occupied

[13] *See infra* Section IV.B.2.

[14] *See infra* Section IV.B.4.

[15] *See id*.

[16] *See infra* Section IV.B.5.

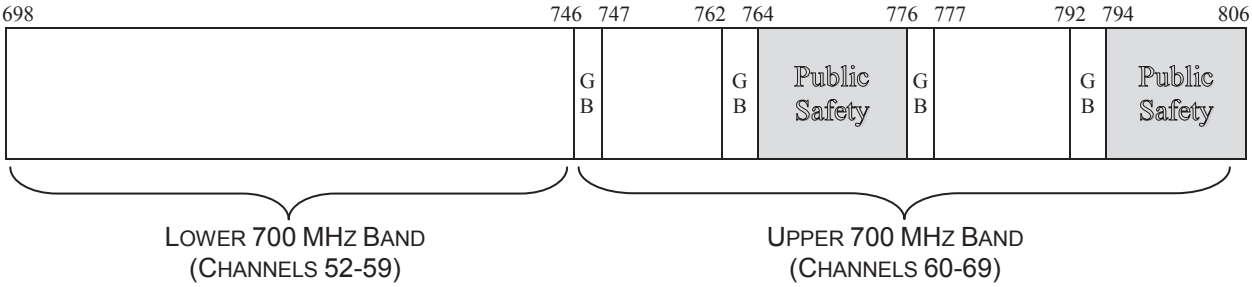
[17] *See id.*

[18] *See generally 700 MHz Commercial Services Notice*; *700 MHz Guard Bands Notice*; *700 MHz Public Safety Eighth Notice.*

currently by TV Channels 2-51 (the "core" TV broadcast spectrum). At that time, the 700 MHz Band will be available for new uses, including public safety, commercial, and other new radio services.[19]

15. Prior to the DTV Act, the Commission had addressed in separate proceedings the reallocation of the 48 megahertz covering TV Channels 52-59 ("Lower 700 MHz Band")[20] and the 60 megahertz covering TV Channels 60-69 ("Upper 700 MHz Band"). The proceedings addressing the Upper 700 MHz Band divided this 60 megahertz into the 36 megahertz dedicated to commercial use,[21] including the 6 megahertz comprising the Guard Bands spectrum,[22] and the 24 megahertz designated for public safety use.[23] Figure 1 shows the location of Commercial Services, Guard Band, and Public Safety spectrum within the 700 MHz Band.

FIGURE 1 – 700 MHZ BAND



16. The Balanced Budget Act of 1997 ("Balanced Budget Act") required the Commission to reallocate the Upper 700 MHz Band no later than January 1, 1998.[24] Specifically, the Balanced Budget Act mandated that the Commission allocate 24 megahertz of spectrum for public safety services in the Upper 700 MHz Band, while allocating the remaining 36 megahertz of spectrum for commercial use, to be assigned by competitive bidding.[25] In the Balanced Budget Act, Congress also directed the Commission to "reclaim and organize" additional spectrum beyond the Upper 700 MHz Band, and to do

[19] This recovery of spectrum from existing, analog broadcast use is an important objective of the DTV transition. *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, 10977 ¶ 18 (1996).

[20] *See* Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59), GN Docket No. 01-74, *Report and Order*, 17 FCC Rcd 1022 (2002) (*Lower 700 MHz Report and Order*); Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59), GN Docket No. 01-74, *Memorandum Opinion and Order*, 17 FCC Rcd 11613 (2002) (*Lower 700 MHz MO&O*).

[21] *See* Reallocation of Television Channels 60-69, the 746-806 MHz Band, ET Docket No. 97-157, *Report and Order*, 12 FCC Rcd 22953 (1998), *recon.* 13 FCC Rcd 21578 (1998) (*Upper 700 MHz Reallocation 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*).

[22] *See 700 MHz Guard Bands Notice*, 21 FCC Rcd at 10414 ¶ 1 n.1.

[23] *See 700 MHz Public Safety Ninth Notice*, 21 FCC Rcd at 14838-39 ¶¶ 5-6; *see generally 700 MHz Public Safety Eighth Notice*.

[24] *See* Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 § 3004 (1997) (adding new § 337 of the Communications Act); *Upper 700 MHz Reallocation Order*, 12 FCC Rcd at 22955 ¶ 5.

[25] *See* 47 U.S.C. § 337(a) (enacted by the Balanced Budget Act of 1997 § 3004, which added new Section 337(a) and established an initial timetable for conducting auctions).

so "in a manner consistent with the objectives" of Section 309(j)(3) of the Act.[26] While Congress did not specify the amount of spectrum to be reclaimed beyond the Upper 700 MHz Band, the Commission determined that all broadcasters using digital transmission systems could be accommodated in the core TV Channels 2-51. As a result, the 48 megahertz of spectrum in the Lower 700 MHz Band (698-746 MHz) would become available for new services through competitive bidding.[27]

17. In passing the DTV Act, Congress accelerated the DTV transition by establishing February 17, 2009, as a new firm deadline for the end of the transition.[28] Congress also required the Commission to commence the auction of recovered analog broadcast spectrum no later than January 28, 2008, and deposit the proceeds of the auction in the Digital Television Transition and Public Safety Fund no later than June 30, 2008.[29] These statutory changes will effectively clear the spectrum in both the Upper and Lower 700 MHz Bands as of February 17, 2009, and consequently eliminate any uncertainty regarding when this spectrum will be available for public safety, commercial, and other wireless services.

B. 700 MHz Commercial Services Proceeding

18. In the 700 MHz Commercial Services proceeding, we sought comment on the 78 megahertz of commercial spectrum in the 698-746, 747-762, and 777-792 MHz bands ("700 MHz Commercial Services Band").[30] The 700 MHz Band also currently includes six megahertz of commercial spectrum in the 746-747/776-777 MHz and 762-764/792-794 MHz bands, the 700 MHz Guard Bands spectrum, designed to protect users in the adjacent 700 MHz Public Safety spectrum. That public safety allocation comprises the remaining 24 megahertz in the 700 MHz Band, and consists of 12 megahertz of narrowband channels (voice and low speed data) and 12 megahertz of wideband (image/high speed data and slow scan video) communications channels. Figure 2 shows the current band plan for the Upper 700 MHz Band. Guard Band licenses (A and B Blocks) were assigned over the 52 Major Economic Areas (MEAs) and the remaining licenses (C and D Blocks) were assigned over the six Economic Areas Groupings (EAGs).[31] The A and B Blocks (Guard Bands) have been auctioned, while the C and D Blocks have not yet been auctioned.

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[26] 47 U.S.C. § 309(j)(14)(C)(i)(II) (2005). Among the objectives of Section 309(j) of the Act are "the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas;" "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;" and the "efficient and intensive use of the electromagnetic spectrum." 47 U.S.C. § 309(j)(3).

[27] *See* 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, 7435-36 ¶ 42 (1998) (*DTV MO&O of the Sixth Report and Order*). The Commission stated that expanding the DTV core spectrum would permit recovery of 108 megahertz of spectrum at the end of the DTV transition period. *Id.* at 7436 ¶ 45.

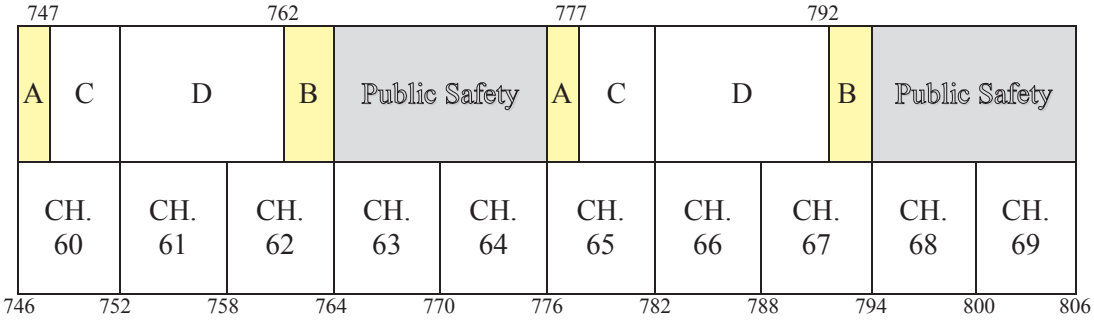
[28] DTV Act § 3002. Prior to the DTV Act, analog broadcasters were required to cease operations in this band by December 31, 2006, but the Commission was required to extend the end of this transition in certain circumstances. Specifically, extensions were to be granted at the request of broadcast licensees on a market-by-market basis if one or more of the four largest network stations or affiliates were not broadcasting in digital, if digital-to-analog converter technology was not generally available, or if 15 percent or more of television households were not receiving a digital signal. *See* 47 U.S.C. § 309(j)(14)(A)-(B) (2005).

[29] DTV Act §§ 3003-3004.

[30] *See generally 700 MHz Commercial Services Notice.*

[31] With regard to the size of geographic service areas for the commercial spectrum in the Upper 700 MHz Band, the Commission determined that, based on the positions of commenters, the likely uses of this spectrum, and other (continued….)

FIGURE 2 – UPPER 700 MHZ BAND



Block	Frequencies	Bandwidth	Pairing	Area Type	Licenses
A	746-747, 776-777	2 MHz	2 x 1 MHz	MEA	52*
B	762-764, 792-794	4 MHz	2 x 2 MHz	MEA	52*
C	747-752, 777-782	10 MHz	2 x 5 MHz	700 MHz EAG	6
D	752-762, 782-792	20 MHz	2 x 10 MHz	700 MHz EAG	6

*Blocks have been auctioned.

19. *700 MHz Commercial Services Notice.* In determining the size of geographic service areas for the C and D Blocks in the Upper 700 MHz Band, the Commission in 2000 decided to use large areas based on EAGs.[32] The Commission based this decision on a number of factors, including the likely uses of this spectrum as reflected in the record, a previous statutory obligation to conduct the auction and deposit the proceeds by a specific date,[33] and the Commission's desire to help bidders avoid costs associated with initial license area sizes that are either too small or too large.[34] The Commission observed that large license areas such as EAGs could allow licensees to take advantage of economies of scale to develop new technologies and services, and could be aggregated to form nationwide licenses.[35]

20. In a separate proceeding in 2001, the Commission divided the 48 megahertz of spectrum in the Lower 700 MHz Band into blocks of paired and unpaired spectrum to accommodate a range of new fixed, mobile, and broadcast services and technologies.[36] Figure 3 shows the current band plan for the Lower 700 MHz Band. The C Block was assigned across CMAs (*i.e.*, Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs)), while the remaining blocks were assigned across Economic Area Groupings (EAGs). While Congress specifically directed the Commission to delay the auction of

(Continued from previous page)
considerations, the most appropriate policy would be to base the band plan on large EAGs. *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 500 ¶¶ 56-57.

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

[33] *See* Consolidated Appropriations Act, 2000, Pub. L. No. 106-113, 113 stat. 2502, Appendix E, Sec. 213(a)(3), *reprinted in* 47 U.S.C.A. § 337 Note at Sec. 213(a)(3). With regard to previous statutory requirements to complete the auction by a certain date, in the *Upper 700 MHz First Report and Order*, the Commission stated that its experience "has shown that simultaneous multiple-round auctions for a larger number of licenses are more complex and take longer to complete than similar auctions involving fewer licenses." *Upper 700 MHz First Report & Order,* 15 FCC Rcd at 500 ¶ 57.

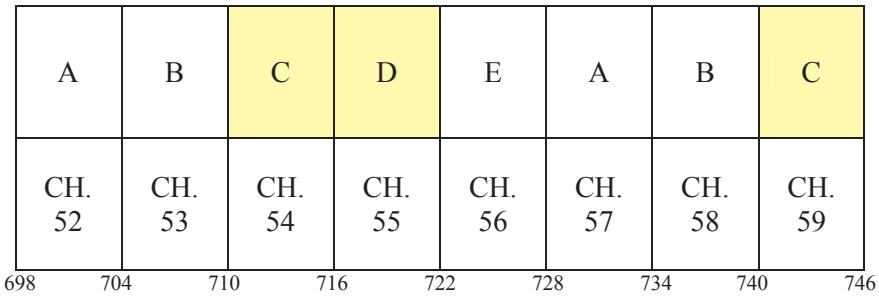
[34] *See Upper 700 MHz First Report and Order,* 15 FCC Rcd at 500 ¶ 57.

[35] *Id.* at 501 ¶ 59.

[36] *See Lower 700 MHz Report and Order*, 17 FCC Rcd at 1029, 1054-55 ¶¶ 13, 76.

licenses in the Lower 700 MHz Band, it made an exception for C Block and D Block licenses, which it directed the Commission to auction immediately.[37] The remaining A, B, and E Blocks have not been auctioned.

FIGURE 3 – LOWER 700 MHZ BAND



Block	Frequencies	Bandwidth	Pairing	Area Type	Licenses
A	698-704, 728-734	12 MHz	2 x 6 MHz	700 MHz EAG	6
B	704-710, 734-740	12 MHz	2 x 6 MHz	700 MHz EAG	6
C	710-716, 740-746	12 MHz	2 x 6 MHz	CMA	734*
D	716-722	6 MHz	unpaired	700 MHz EAG	6*
E	722-728	6 MHz	unpaired	700 MHz EAG	6

*Blocks have been auctioned.

21. The Commission decided to make available a mix of both large and small geographic service areas in the Lower 700 MHz Band. The Commission noted that, in contrast to its experience in establishing service area sizes for the C and D Blocks in the Upper 700 MHz Band, many commenters in the Lower 700 MHz Band proceeding, including small and rural providers, favored small geographic areas, including CMAs.[38] In light of this interest in small areas, the Commission decided to assign the 12-megahertz C Block over CMAs.[39] The Commission observed that this was a "significant" amount of spectrum to assign across small geographic areas, noting that it amounted to 25 percent of the 48 megahertz in the Lower 700 MHz Band. The Commission concluded that such a policy would afford meaningful opportunities to small and rural wireless providers.[40] While the Commission declined to adopt nationwide licenses,[41] it assigned the two remaining 12-megahertz paired blocks, as well as the two 6-megahertz unpaired blocks, over EAGs, for many of the same reasons cited in its proceeding for the Upper 700 MHz Band.[42]

[37] Auction Reform Act of 2002, Pub. L. No. 107-195, 116 Stat. 715 (codified as 47 U.S.C. § 309(j)(15)).

[38] CMAs were found to correspond to the needs of many customers, including customers of small regional and rural providers. *Lower 700 MHz Report and Order,* 17 FCC Rcd at 1061 ¶¶ 95-96.

[39] *See id.* at 1059 ¶ 90.

[40] *See Lower 700 MHz MO&O*, 17 FCC Rcd at 11619 ¶ 14 n. 32 (noting that one 12-megahertz block of spectrum "is significant" in that it equals 25 percent of the 48 megahertz of spectrum in the Lower 700 MHz Band).

[41] *Lower 700 MHz Report and Order*, 17 FCC Rcd at 1059 ¶ 90, 1060-61 ¶ 94.

[42] *Id.* at 1059-60 ¶¶ 91, 93. The Commission used the definition of EAGs as defined in the Upper 700 MHz Band proceeding, which included a particular definition concerning the division of the Gulf of Mexico between two EAGs. *See id.* at 1059 ¶ 90 & n.257.

22. In the *700 MHz Commercial Services Notice* adopted in August 2006, we sought comment on possible revisions to the band plan and service rules concerning commercial licenses in the 698-746, 747-762, and 777-792 MHz bands.[43] Among others things, we requested comment on ways the Commission could promote access to spectrum and the provision of service by assigning unauctioned spectrum over smaller geographic areas, whether we should modify the band plan with regard to the size and location of the spectrum blocks, whether we should revise the applicable performance standards pertaining to certain of these licenses, and whether to modify any of the technical rules in these bands. In addition, we also sought comment on several auctions-related issues and license renewal procedures. Also, we tentatively concluded that the Commission's 911/E911 rules and its hearing aid compatibility rules should be extended to apply to commercial services in the 700 MHz Band, as well as to CMRS services in other bands to the extent they meet certain criteria.

C. 700 MHz Guard Bands Proceeding

23. When the Commission originally established the Guard Bands in the Upper 700 MHz Band in 2000, its goal was to ensure that operations in the 36 megahertz of commercial spectrum would not cause harmful interference to 700 MHz public safety operations.[44] While recognizing the Guard Bands' primary role as protecting public safety operations, the Commission permitted operations within the Guard Bands to "allow for effective and valued use of the spectrum, consistent with sound spectrum management, rather than the creation of guard band spectrum of little use."[45] To minimize the potential for harmful interference to public safety operations, the Commission precluded Guard Bands operations from employing cellular system architectures,[46] and required entities operating in the Guard Bands to comply with stringent out-of-band emissions criteria[47] and frequency coordination procedures.[48] The Commission created the Guard Band Manager classification, a new class of commercial licensee engaged specifically in leasing spectrum to third parties on a for-profit basis,[49] and required that Guard Band Managers control the use of the spectrum consistent with the strict interference and frequency coordination rules designed to protect public safety.[50]

24. *700 MHz Guard Bands Notice.* In the *700 MHz Guard Bands Notice* adopted in September 2006, we sought comment on possible changes to the Part 27 service rules applicable to existing and prospective Upper 700 MHz Band licensees in the A Block and the B Block.[51] Two developments prompted the Commission to seek comment on possible rule changes that could promote more efficient and effective use of the Guard Bands. First, in 2004 as part of the 800 MHz public safety interference remediation proceeding in WT Docket No. 02-55, the Commission reclaimed all of Nextel

[43] *See generally 700 MHz Commercial Services Notice*, 12 FCC Rcd at 9346-48 ¶¶ 1-2.

[44] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 490-91 ¶ 33.

[45] *Id.* at 491 ¶ 34. The Commission also allocated each of the Upper 700 MHz spectrum blocks so that they would align with as few incumbent television broadcast channels as possible, in order to expedite deployment, reduce the number of potential negotiated agreements with broadcasters, and avoid a problem of "free riding" third parties benefiting from others' negotiations. *Id.* at 492 ¶ 37.

[46] 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, 5308-09 ¶ 19 (2000) ("*Upper 700 MHz Second Report and Order*").

[47] *Id.* at 5307-08 ¶ 17.

[48] *Id*. at 5308 ¶ 18.

[49] *Id.* at 5312-13 ¶ 27.

[50] *Id.* at 5313 ¶ 30.

[51] *700 MHz Guard Bands Notice*, 21 FCC Rcd at 10414 ¶ 2.

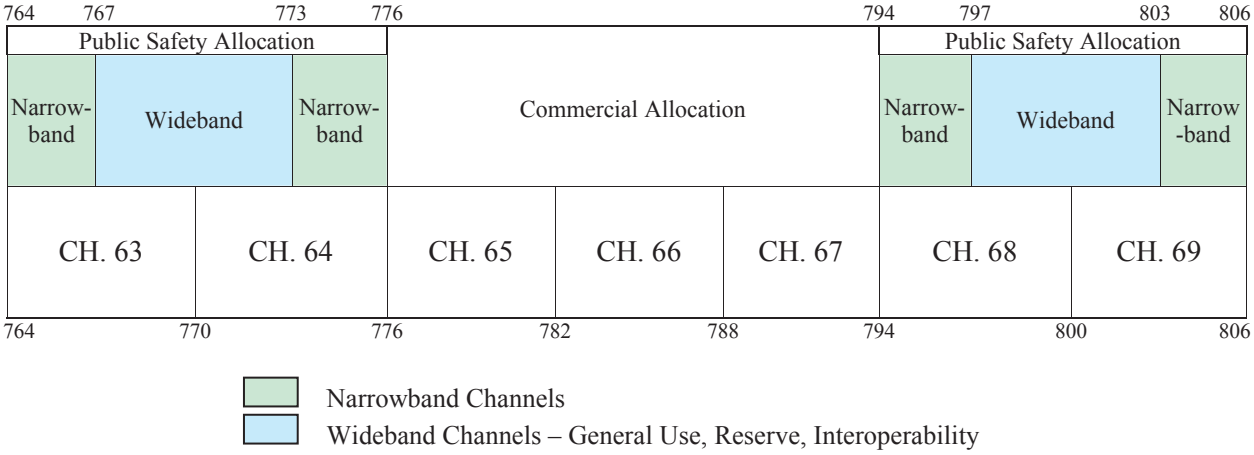
Communications, Inc.'s (Nextel) Guard Bands licenses, constituting 42 of the 52 B Block markets.[52] Second, Congress recently created greater certainty regarding the availability of unencumbered 700 MHz Band spectrum for wireless commercial and public safety licensees—including the Guard Bands—by establishing a "hard date" of February 17, 2009, by which time incumbent analog broadcasters must vacate the spectrum. The *700 MHz Guard Bands Notice* sought comment on possible changes to the existing service rules for the Guard Bands that could result in more intensive use of the spectrum through greater operational, technical, and regulatory flexibility for licensees. Among other issues, we sought comment on whether to retain the existing Guard Band Manager rules or apply a different set of policies and rules to enable third parties to gain access to spectrum usage rights, such as those adopted in the Secondary Markets proceeding.[53] The *700 MHz Guard Bands Notice* also asked whether we should apply the existing Guard Band Manager rules to the returned Nextel spectrum or whether another regulatory structure is appropriate.[54]

D. 700 MHz Public Safety Proceeding

25. In a December 2005 Report to Congress submitted pursuant to the Intelligence Reform Act,[55] the Commission recognized that broadband communications applications offer the public safety community a number of benefits, including video surveillance, real-time text messaging and e-mail, high resolution digital images and the ability to obtain location and status information of personnel and equipment in the field.[56] The Report to Congress found that emergency response providers would benefit from development of an integrated, interoperable network capable of delivering broadband services nationwide.[57]

26. As illustrated below, however, the current allocation for the public safety portion of the 700 MHz Band does not allow for broadband applications:

FIGURE 4 – 700 MHZ PUBLIC SAFETY BAND



[52] *See id.* at 10418-19 ¶ 12.

[53] *Id.* at 10421-24 ¶¶ 18-24.

[54] *Id.* at 10423 ¶ 22.

[55] *See* Intelligence Reform Act, Pub. L. No. 108-458, 118 Stat. 3638 § 7502(d)(1) (2004).

[56] *See* Report to Congress on the Study to Assess the Short-Term and Long-Term Needs for Allocations of Additional Portions of the Electromagnetic Spectrum for Federal, State, and Local Emergency Response Providers, WT Docket No. 05-157 at 13 ¶ 26 (Dec. 16, 2005) (*Intel Reform Act Report*).

[57] *Id.*

27. In March 2006, the Commission adopted the *700 MHz Public Safety Eighth Notice*, seeking comment on the use of the 700 MHz Public Safety Band to accommodate the broadband needs of public safety.[58] In particular, the Commission sought comment on revisions to the above band plan proposed by the National Public Safety Telecommunications Council (NPSTC), Motorola, and Lucent.[59] All of the proposals contemplated aggregating the wideband general use channels, wideband interoperability channels, and wideband reserve spectrum to form a broadband segment. The Commission solicited alternative proposals, tentatively concluded not to alter the location of the narrowband voice and data channels, and sought comment on ways in which public safety entities could use the 700 MHz Public Safety Band for broadband applications and on measures that should be taken to promote broadband interoperability.[60]

28. The subsequent *700 MHz Guard Bands Notice* sought comment on possible modifications to the rules governing the 700 MHz Guard Band licensees, including the BOP advanced by Access Spectrum and Pegasus Communications.[61] The *700 MHz Guard Bands Notice* relates to the 700 MHz Public Safety proceeding, *inter alia,* because the Commission tentatively concluded that any Guard Bands proposal involving relocation of the narrowband channels in the 700 MHz Public Safety Band must address the source of funds to reprogram existing public safety 700 MHz radios and the coordination of the proposal with Canada and Mexico.

29. Most recently, in December 2006 we adopted a *700 MHz Public Safety Ninth Notice* in which we proposed, in light of the nation's current and anticipated public safety and homeland security needs, "a centralized and national approach to maximize public safety access to interoperable, broadband spectrum in the 700 MHz Band, and, at the same time, foster and promote the development and deployment of advanced broadband applications, related radio technologies, and a modern, IP-based system architecture."[62]

E. Frontline Proposal

30. In recent weeks, Frontline has submitted several filings with the Commission regarding its proposed "Public Safety Broadband Deployment Plan" for a portion of the spectrum in the 700 MHz Band.[63] Frontline proposes that the Commission alter the upper portion of the band plan and service rules

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[58] *See 700 MHz Public Safety Eighth Notice*, 21 FCC Rcd at 3669 ¶ 2.

[59] *Id.* at 3676-79 ¶¶ 14-22.

[60] *See id.* at 3675-76 ¶ 13, 3683-84 ¶ 33.

[61] *See 700 MHz Guard Bands Notice*, 21 FCC Rcd at 10431-35 ¶¶ 42-48.

[62] *700 MHz Public Safety Ninth Notice*, 21 FCC Rcd at 14838 ¶ 3.

[63] *See, i.e.,* Comments of Frontline Wireless, LLC, PS Docket No. 06-229 and WT Docket No. 96-86 (filed Feb. 26, 2007) ("Frontline Comments in PS Docket No. 06-229"); Reply Comments of Frontline Wireless, LLC, PS Docket No. 06-229 and WT Docket No. 96-86 (filed Mar. 12, 2007) ("Frontline Reply Comments in PS Docket No. 06-229"); Comments of Frontline Wireless, LLC, WT Docket No. 06-150 (filed Mar. 6, 2007) ("Frontline Mar. 6 Comments in WT Docket No. 06-150"); Letter from John Blevins, counsel to Frontline Wireless, LLC, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229 (filed Mar. 27, 2007) ("Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229"). *See also* Letter from Matthew S. DelNero, counsel to Frontline Wireless, LLC, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229 (filed Mar. 7, 2007) ("Frontline March 7 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229"); Letter from Matthew S. DelNero, counsel to Frontline Wireless, LLC, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229 (filed Mar. 12, 2007) ("Frontline March 12 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229"); Letter from Matthew S. DelNero, counsel to Frontline Wireless, LLC, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229 (filed Mar. 16, 2007) ("Frontline March 16 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229"); Letter from Matthew S. DelNero, counsel to Frontline Wireless, LLC, to Marlene H. Dortch, Secretary, FCC, (continued….)

in the 700 MHz Commercial Services proceeding in order to auction a single nationwide 10-megahertz license (a new "E-block") near the 700 MHz Public Safety spectrum that would be subject to specific conditions.[64] In particular, the Commission would require the licensee to construct a nationwide, interoperable broadband network for sharing with a national public safety licensee that would provide broadband service in the lower portion of the 700 MHz Public Safety spectrum.[65] Frontline has made these filings in the three current Commission proceedings described above: the 700 MHz Commercial Services proceeding, the 700 MHz Public Safety proceeding, and the 700 MHz Guard Bands proceeding.

III. REPORT AND ORDER

31. Based on the record before us, we make a number of decisions in this Report and Order regarding the rules that will apply with regard to issues raised in the 700 MHz Commercial Services proceeding and the 700 MHz Guard Bands proceeding. First, we discuss the 700 MHz Commercial Services, including actions we are taking to facilitate access to spectrum and the provision of service to consumers, particularly with respect to the spectrum to be auctioned as directed by the DTV Act. Second, we address rules and policies for the 700 MHz Guard Bands in order to provide licensees enhanced flexibility while at the same time guarding against interference with the adjacent 700 MHz Public Safety spectrum.

A. 700 MHz Commercial Services

32. In this Report and Order, we take a number of steps to facilitate access to spectrum and the provision of service to consumers, especially those in rural areas, and to simplify and clarify our rules related to the commercial 700 MHz Band spectrum. We adopt a mix of geographic service areas to provide for CMAs, EAs, and REAGs for licenses in the commercial services. In addition, we decline to alter our rules relating to secondary market transactions. For issues relating to auctions of the commercial spectrum, we conclude that no new rules are needed to facilitate nationwide aggregation of existing and new 700 MHz Commercial Services licenses, reject requests for set aside of licenses for designated entities and to establish an additional small business category for bidding credits, and address issues concerning competitive bidding, aggregation of new licenses, and tribal lands bidding credits. Finally, with respect to the commercial services, we address issues concerning license renewal, extend the license terms to provide that initial authorizations for the 700 MHz Commercial Services Band will have a term not to exceed 10 years from February 17, 2009, address power limits and other technical issues, and establish requirements concerning 911/E911 and hearing aid-compatible handsets.

33. We do not accept arguments made by several commenting parties in this proceeding that making revisions to the rules for this 700 MHz spectrum may cause undue administrative and judicial delay,[66] or arguments that any changes to these rules run the risk of reducing the amount of monies collected in the auction to the extent that they could jeopardize funding for all elements of the plan

(Continued from previous page)
Ex Parte in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229 (filed Mar. 19, 2007) ("Frontline Mar. 19 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229"); Letter from Matthew S. DelNero, counsel to Frontline Wireless, LLC, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229 (filed Mar. 22, 2007) ("Frontline Mar. 22 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229").

[64] The "E-block" would consist of the paired 757-762 MHz and 787-792 MHz frequencies.

[65] *See generally* Frontline Comments in PS Docket No. 06-229; Frontline Mar. 6 Comments in WT Docket No. 06-150; Frontline Reply Comments in PS Docket No. 06-229; Frontline March 12 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229; Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229.

[66] *See* Cingular Reply Comments in WT Docket No. 06-150 at 7.

relating to the DTV transition.[67] Similarly, we reject the argument that any revisions to the rules for this spectrum may cause a delay in the provision of services by these licensees.[68] Accordingly, we find that our actions in this Report and Order will not jeopardize our ability to meet our statutory obligations with respect to the DTV transition.

1. Background

34. In the *700 MHz Commercial Services Notice*, we sought comment on a number of service rule issues concerning the 700 MHz Commercial Services Band.[69] With regard to the Commission's policies to promote access to spectrum and the provision of service, we sought comment on whether to assign additional unauctioned spectrum over geographic service area sizes other than the six EAGs specified under the current rules, and in particular, whether there is a need for additional small area licenses in this band, such as the 734 Cellular Market Areas (CMAs).[70] We also sought comment on whether we should modify the size of spectrum blocks in the Upper 700 MHz Commercial Services Band or the Lower 700 MHz Band, or both.[71] While stating that we thought the current band plan for the Lower 700 MHz Band should be retained, we nonetheless sought comment on possible changes to that band, and also specifically asked for comment on whether the Upper 700 MHz Commercial Services Band should be reconfigured by dividing its 20 megahertz D Block into two or more blocks.[72] We also sought comment on whether we should revise our current "substantial service" performance requirements for the 700 MHz Commercial Services Band, or whether the Commission should adopt alternative build-out rules, including population-based construction benchmarks, geography-based construction benchmarks, or a "keep-what-you-use" standard similar to that adopted for cellular service in the 1980s.[73] In addition, we sought comment on whether the Commission should attempt to promote access to spectrum and the provision of service through revisions to its secondary markets rules and procedures, such as by requiring licensees to make "good faith" efforts to negotiate with potential lessees and/or providing a point of contact for lessees.[74]

35. With respect to the Commission's policies on auctions-related issues, we sought comment on whether it would be necessary or desirable to facilitate the aggregation of new and existing 700 MHz Commercial Services Band licenses through the use of a "two-sided auction" that would offer for sale unassigned as well as previously assigned licenses for the spectrum in this band.[75] Similarly, we generally sought comment on whether any changes to the Commission's competitive bidding rules are necessary or desirable in order to facilitate efficient aggregation of new licenses, in light of the existing spectrum blocks for the 700 MHz Commercial Services Band licenses as well as any revisions the Commission may make to these spectrum blocks.[76] The *700 MHz Commercial Services Notice* also

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[67] *See* Verizon Wireless Comments in WT Docket No. 06-150 at 2 (discussing funding for digital-to-analog converter box program and the interoperable communications systems for public safety).

[68] *See* Qualcomm Comments in WT Docket No. 06-150 at 15-16 (rule changes could cause delay in delivery of services).

[69] *See 700 MHz Commercial Services Notice*, 21 FCC Rcd at 9346-48 ¶¶ 1-2.

[70] *700 MHz Commercial Services Notice*, 21 FCC Rcd. at 9362-69 ¶¶ 28-48.

[71] *Id.* at 9369-73 ¶¶ 49-59.

[72] *Id.* at 9369 ¶ 49.

[73] *Id.* at 9373-76 ¶¶ 61-69. In the Further Notice, we seek comment on specific geography-based construction benchmarks to be applied to the unauctioned commercial 700 MHz Band licenses. *See infra* Section IV.B.1.c.

[74] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9376-78 ¶¶ 70-72.

[75] *Id.* at 9372-73 ¶¶ 58-59.

[76] *Id.* at 9372 ¶¶ 56-57.

generally sought comment on whether the Commission should take additional action to help facilitate access to 700 MHz spectrum and the provision of service to all consumers, including those in rural areas, as well as whether the Commission should make any adjustments to its Tribal Lands Bidding Credit rules as they apply to the 700 MHz Band licenses to be auctioned.[77]

36. In addition, the *700 MHz Commercial Services Notice* also addressed a number of other policies and rules for 700 MHz Commercial Services Band licensees. For example, we sought comment on whether the Commission should amend its rules to state more explicitly the criteria for renewal of 700 MHz Commercial Services Band licenses, whether it should integrate the substantial service or any end-of-term requirements into the renewal process for 700 MHz Commercial Services Band licenses, and whether it should replace procedures for filing competing applications at renewal time with criteria to measure level of service provided by these licenses.[78] The *700 MHz Commercial Services Notice* sought comment on whether license terms of unauctioned as well as previously auctioned 700 MHz Commercial Services Band licenses should be extended beyond 2015, and whether the Commission should establish a uniform license term for all licensees in the band.[79] We also sought comment on whether licensees in the Upper 700 MHz Commercial Services Band should be permitted to operate at higher power levels, while noting that such changes could not result in additional interference to public safety services operating in the band.[80] Regarding the Lower 700 MHz Band, we sought comment on whether the Commission should continue to permit licensees in this portion of the band to operate at the 50 kW level, or whether this capability should be reduced for existing and/or future Lower 700 MHz Band licensees.[81] Finally, in the *700 MHz Commercial Services Notice* we sought comment on our tentative conclusion that the Commission's 911/E911 and hearing aid compatibility rules should be extended to apply to 700 MHz services, as well as to CMRS services in other bands, to the extent these services meet certain criteria.[82]

2. Discussion

a. Facilitating Access to Spectrum and Provision of Service to Consumers

37. We take several steps to facilitate access to spectrum and the provision of service to consumers, especially those in rural areas, in the 700 MHz Commercial Services Band. We determine to provide for a mix of geographic service area sizes for the licenses that will be auctioned.[83] We also determine not to revise the Commission's existing spectrum leasing rules as they apply to 700 MHz Commercial Services Band licensees.

(i) Mix of Geographic Service Area Sizes

38. Background. In the *Upper 700 MHz First Report and Order*, the Commission determined that Blocks C and D of the Upper 700 MHz Band would be assigned over six EAGs.[84] In the

[77] *Id.* at 9378-80 ¶¶ 73-79.

[78] *Id.* at 9380-9383 ¶¶ 80-83.

[79] *Id.* at 9383-85 ¶¶ 84-89.

[80] *Id.* at 9385-86 ¶¶ 91-94.

[81] *Id.* at 9388 ¶¶ 95-98.

[82] *Id.* at 9388-90 ¶¶ 99-106.

[83] In the Further Notice, we seek additional comment on band plan proposals for these licenses, including the location and sizes of these different geographic area licenses as well as the size of the spectrum blocks to be auctioned.

[84] *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 500 ¶ 56; s*ee also* 47 C.F.R. § 27.6(b)(2). The C Block is a 10-megahertz paired block consisting of two 5-megahertz segments; the D Block is a 20-megahertz paired block consisting of two 10-megahertz segments. *See supra* Figure 2. The six megahertz of spectrum that comprise the (continued….)

Lower 700 MHz Report and Order, the Commission determined that Blocks A, B, and E would also be assigned over EAGs.[85] As described above, licenses already have been assigned for two blocks in the Lower 700 MHz Band: the C Block, a 12-megahertz paired block assigned over CMAs, and the D Block, a 6-megahertz unpaired block assigned over EAGs.[86]

39. In the *700 MHz Commercial Services Notice*, we sought comment on whether there is a need to assign additional unauctioned spectrum over service area sizes other than the EAGs specified under current rules,[87] and, if so, what size of service areas, or combinations of sizes, should be adopted for the 700 MHz Band.[88] In particular, comment was requested on whether there is a need for additional small geographic service area licenses in the band, including 176 EAs, 734 CMAs, or any other small and/or rural areas.[89] We also sought comment on which particular spectrum block or blocks would be most appropriate for licensing in revised service area sizes.[90]

40. Many commenters, including small and regional service providers, entities representing rural interests, and a coalition including cable television providers and Sprint-Nextel, support revisiting the existing band plan and suggest that the Commission adopt a mix of the proposed license areas.[91] Some of these same commenters favor making one or more license block available based on small geographic areas,[92] and support the use of smaller service areas in general and CMAs in particular.[93] A

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Guard Band in the Upper 700 MHz Band's Blocks A and B has already been licensed over 52 MEAs. *See* 47 C.F.R. § 27.6(b)(1); 700 MHz Guard Bands Auction Closes, *Public Notice*, 15 FCC Rcd 18026 (2000) (announcing winning bidders in Auction 33); 700 MHz Guard Bands Auction Closes, *Public Notice*, 16 FCC Rcd 4590 (2001) (announcing winning bidders in Auction 38).

[85] *Lower 700 MHz Report and Order*, 17 FCC Rcd at 1059 ¶ 90; *see also* 47 C.F.R. § 27.6(c)(1). Blocks A and B are each 12-megahertz paired blocks consisting of two 6-megahertz segments; the E Block is a 6-megahertz unpaired block. *See supra* Figure 3.

[86] *See supra* Figure 3; Lower 700 MHz Band Auction Closes, *Public Notice*, 17 FCC Rcd 17272 (2002) ("*Auction 44 Public Notice*") (announcing winning bidders in Auction 44); Lower 700 MHz Band Auction Closes, *Public Notice*, 18 FCC Rcd 11873 ("*Auction 49 Public Notice*") (2003) (announcing winning bidders in Auction 49); Auction of Lower 700 MHz Band Licenses Closes, *Public Notice*, 20 FCC Rcd 13424 (2005) ("*Auction 60 Public Notice*") (announcing winning bidders in Auction 60).

[87] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9362 ¶ 27.

[88] *Id.* at 9363-67 ¶¶ 33-41.

[89] *Id.* at 9362 ¶ 27, 9363-67 ¶ 33-41.

[90] *Id.* at 9362 ¶ 27, 9367-69 ¶ 42-48.

[91] *See* Aloha Comments in WT Docket No. 06-150 at ii, 3-6; Aloha Reply Comments in WT Docket No. 06-150 at 1-3; Corr Comments in WT Docket No. 06-150 at 3; Leap Comments in WT Docket No. 06-150 at 4-6; MetroPCS Reply Comments in WT Docket No. 06-150 at 2-8; U.S. Cellular Comments in WT Docket No. 06-150 at 4; Letter from Alltel *et al.* to Marlene H. Dortch, Secretary, FCC, WT Docket No. 06-150 (filed Oct. 20, 2006) ("Balanced Consensus Plan") (signatories to the Balanced Consensus Plan are Alltel, Aloha, Blooston, C&W, ConnectME Authority, Corr, Dobson, Leap, Maine Office of Chief Information Officer, MetroPCS, NTCA, Nebraska PSC, North Dakota PSC, RCA, RTG, Union, U.S. Cellular, Vermont et al., Vermont Telephone Company). *See also* CTIA Comments in WT Docket No. 06-150 at 6 (mix of service areas for AWS-1 spectrum served the wireless marketplace well); Letter from Michelle C. Farquhar, counsel for SpectrumCo LLC, to Marlene H. Dortch, Secretary, FCC, in WT Docket No. 06-150 (filed Jan. 9, 2007) ("SpectrumCo Jan. 9 *Ex Parte* in WT Docket No. 06-150") at 2-11.

[92] *See* Aloha Comments in WT Docket No. 06-150 at ii, 3-6; Balanced Consensus Plan in WT Docket No. 06-150; Blooston Comments in WT Docket No. 06-150 at 2; C&W Comments in WT Docket No. 06-150 at 2-3; Corr Comments in WT Docket No. 06-150 at 2-4; Dobson Comments in WT Docket No. 06-150 at 2-4; Howard/Javed Comments in WT Docket No. 06-150 at 9; Leap Comments in WT Docket No. 06-150 at 4-6; MilkyWay Comments in WT Docket No. 06-150 at 1-6; NextWave Comments in WT Docket No. 06-150 at 2-6; NTCA Comments in WT Docket No. 06-150 at 6; OPASTCO Comments in WT Docket No. 06-150 at 2-3; RCA Comments in WT Docket (continued….)

coalition of cable television providers and Sprint-Nextel recommend a mix of geographic service areas that has most licenses based on EAs. Another coalition of 14 commenters, consisting of small, regional and rural carriers, as well as some state regulators, also submitted a proposal with a mix of service areas based on REAGs, EAs and CMAs.[94] Other commenters, including small and larger carriers as well as rural interests and a tribal representative, also support service areas smaller than EAGs.[95] For example, Frontier suggests that licenses be made available over areas as small as counties.[96] In addition, some commenters offer support for smaller service areas and also advocate unlicensed use of the spectrum.[97] Access Spectrum *et al*. support the use of MEAs, which are the service areas for the Guard Bands licenses, in connection with its specific proposal to reconfigure the Upper 700 MHz Band.[98]

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No. 06-150 at 4-8; RTG Comments in WT Docket No. 06-150 at 2; U.S. Cellular Comments in WT Docket No. 06-150 at 4-7.

[93] *See* Aloha Comments in WT Docket No. 06-150 at 3; Aloha Reply Comments in WT Docket No. 06-150 at 2-3; Blooston Comments in WT Docket No. 06-150 at 1, 2; C&W Comments in WT Docket No. 06-150 at 2; Consumer Federation of America *et al*. Comments in WT Docket No. 06-150 at 4-5; Corr Comments in WT Docket No. 06-150 at 2-4; Dobson Comments in WT Docket No. 06-150 at 2-4; Howard/Javed Comments in WT Docket No. 06-150 at i, 10-11, 21; Leap Comments in WT Docket No. 06-150 at 5; MetroPCS Comments in WT Docket No. 06-150 at 13; MetroPCS Reply Comments in WT Docket No. 06-150 at 2-3; MilkyWay Comments in WT Docket No. 06-150 at 3, 4-5; NTCA Comments in WT Docket No. 06-150 at 6 (supporting a 20-megahertz allocation over CMAs); NextWave Reply Comments in WT Docket No. 06-150 at 12-13; OPASTCO Comments in WT Docket No. 06-150 at 2-3; RCA Comments in WT Docket No. 06-150 at 4-8; RCA Reply Comments in WT Docket No. 06-150 at 3; RTG Comments at 3; RTG Reply Comments at 3; U.S. Cellular Comments in WT Docket No. 06-150 at 5-7; U.S. Cellular Reply Comments in WT Docket No. 06-150 at 5.

[94] Alltel *et al.* in WT Docket No. 06-150 (filing the "Balanced Consensus Plan"). The Balanced Consensus Plan recommends a mix of six different licenses, two each over CMAs (22 megahertz total), EAs (20 megahertz total), and REAGs (12 megahertz paired; 6 megahertz unpaired). This plan also includes a proposed reconfiguration of current D Block in the Upper 700 MHz Band by splitting that block into two 10-megahertz blocks.

[95] *See* MilkyWay Comments in WT Docket No. 06-150 at 4-5 (supporting a mix of different license sizes, including CMAs); Polar Comments in WT Docket No. 06-150 at 1 (urging CMA licenses over 20 megahertz); Frontier Comments in WT Docket No. 06-150 at 1, 5-7 (supports reducing size of all unauctioned spectrum to areas no larger than RSAs and MSAs; also supports county-sized licenses for certain portions of the spectrum); T-Mobile Reply Comments in WT Docket No. 06-150 at 3 (geographic areas smaller than EAGs are more likely to fall within business plans of parties with limited resources); OPASTCO Comments in WT Docket No. 06-150 at 2; NextWave Reply Comments in WT Docket No. 06-150 at 12-13; Howard/Javed Comments in WT Docket No. 06-150 at i, 9; Navajo Nation Comments in WT Docket No. 06-150 at 1 (supporting EA licensing).

[96] Frontier Comments in WT Docket No. 06-150 at 5-6. There are 3,141 U.S. counties. *See* Applications of Midwest Wireless Holdings, L.L.C. and AllTel Communications, Inc., WT Docket No. 05-339, *Memorandum Opinion and Order*, FCC 06-146, 2006 WL 2818315, n. 137 (Oct. 2, 2006).

[97] *See* NextWave Reply Comments in WT Docket No. 06-150 at 9-13. *See also* Howard/Javed Comments at i, 9, 31 (supporting the provision of easements allowing unlicensed use of 700 MHz spectrum).

[98] Access Spectrum *et al*. Comments in WT Docket No. 06-150 at 23-24. *See infra* Section IV.B.1.a (discussing Access Spectrum *et al*.'s proposal for the Upper 700 MHz Band).

41. On the other hand, a number of commenters support retaining EAGs exclusively.[99] Cingular and Verizon Wireless oppose adopting additional small-area licenses in the 700 MHz Band.[100] CTIA states that, in considering revisions and determining the appropriate license area size(s), the Commission should consider all of the 700 MHz Commercial Services spectrum (both auctioned and unauctioned), the licensing framework for the AWS-1 band in the AWS proceeding,[101] and the various secondary market opportunities available today.[102] DIRECTV/EchoStar comment that a nationwide license should be included in a mix of license sizes.[103]

42. Discussion. We find that providing for a mix of geographic licensing areas in the 700 MHz Band will balance the demand for differently sized licenses demonstrated in the record and enhance access to this spectrum by a variety of potential licensees. In particular, we determine to replace the unassigned EAG-sized license areas, as established in the current band plan, with a mix of geographic licensing areas consisting of CMAs, EAs, and REAGs. These revisions are consistent with the goal of providing greater access to spectrum for small providers and parties in rural areas, and improving the opportunity for a wider range of potential licensees to obtain access to this valuable spectrum. Having decided to adopt these three geographic license sizes for this commercial spectrum, in the Further Notice below we seek comment on a proposal regarding the band plan for commercial 700 MHz spectrum, both with regard to the size of the spectrum blocks to be auctioned and the location of the new CMAs, EAs, and REAGs with respect to those blocks.[104]

43. In determining the size of service areas, the Commission has stated as a general principle that it will consider "licensing the spectrum over a range of various sized geographic areas, including smaller service areas such as MSAs/RSAs [CMAs], where consistent with the record in that proceeding and with other factors that may be relevant to the spectrum."[105] Many commenters, including small and

[99] *See* AT&T Comments in WT Docket No. 06-150 at 3; AT&T Reply Comments in WT Docket No. 06-150 at 2; Cingular Comments in WT Docket No. 06-150 at 5; Cingular Reply Comments in WT Docket No. 06-150 at 3; Motorola Comments in WT Docket No. 06-150 at i; Motorola Reply Comments in WT Docket No. 06-150 at 2; Verizon Wireless Comments in WT Docket No. 06-150 at 3. *See also* CTIA Comments in WT Docket No. 06-150 at 1-2 (stating that, in large part, the existing licensing and service rules should be left unchanged); Qualcomm Comments in WT Docket No. 06-150 at 17 (stating that any change would be for unauctioned spectrum only). Cingular and AT&T argue that if any change is to be made to the size of service areas, then such changes should be limited. Cingular Reply Comments in WT Docket No. 06-150 at 9 (arguing that any changes to band plan should be limited to the Upper 700 MHz Band); AT&T Reply Comments in WT Docket No. 06-150 at 15 (noting that if any change is made, it should be to one block only, and that the Lower 700 MHz Band should not be changed).

[100] *See* Cingular Comments in WT Docket No. 06-150 at 7-9; Cingular Reply Comments in WT Docket No. 06-150 at 7-9; Verizon Wireless Comments in WT Docket No. 06-150 at 4-5; Verizon Wireless Reply Comments in WT Docket No. 06-150 at 3-6 (discussing downside of small area licensing and lack of evidence to support smaller geographic areas).

[101] *See* Service Rules for Advanced Wireless Services in the 1.7 and 2.1 GHz Bands, WT Docket No. 02-353, *Order on Reconsideration*, 20 FCC Rcd 14058 (2005) (*AWS-1 Order on Reconsideration*) (adopting a mix of license sizes). "AWS-1" refers to the 90 megahertz of the spectrum in the 1710-1755 MHz and 2110-2155 MHz bands. Licenses involving this spectrum recently were auctioned in Auction No. 66.

[102] CTIA Comments in WT Docket No. 06-150 at 6; *see also* Verizon Wireless Reply Comments in WT Docket No. 06-150 at 4-5.

[103] DIRECTV/EchoStar Comments in WT Docket No. 06-150 at 3.

[104] *See infra* Section IV.B. In this Further Notice, we also consider a recently filed proposal by Frontline. *See infra* Section IV.B.5. Were the Commission to determine to create a nationwide licensee for one block of commercial spectrum, consistent with the Frontline proposal, this would not affect our decision in this Report and Order to create a mix of CMA, EA, and REAG licenses for the other blocks of commercial 700 MHz Band spectrum.

[105] Facilitating the Provision of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Telephone Companies to Provide Spectrum-Based Services, WT Docket No. 02-381, 2000 Biennial Regulatory (continued….)

regional service providers and entities that represent rural interests, favor an approach that would provide for a variety of license sizes beyond those in the current band plan.[106] We agree with those commenters who observe that a revised mix of smaller license sizes would provide a more balanced set of initial licensing opportunities at this time and make available more licenses to match the needs of different potential users.[107] The opportunities afforded by providing licenses with a mix of geographic areas were seen in the results of Auction No. 66 involving AWS-1 licenses, where many different bidders won smaller and mid-sized licenses, such as CMAs and EAs.[108] The same policy of providing a mix of licenses that balances competing interests is appropriate here. These revisions will advance the Commission's statutorily directed goals to promote service to rural areas,[109] promote investment in and the rapid deployment of new technologies and services,[110] avoid the excessive concentration of licenses, and provide for the dissemination of licenses among a wide variety of applicants.[111]

44. We conclude that providing a mix of CMA, EA, and REAG licenses in the 700 MHz Commercial Services spectrum will be an effective means of providing increased access to spectrum, especially in rural areas, while simultaneously meeting other Commission goals. We disagree with commenters who argue that any changes to smaller area licenses should be limited to the Upper 700 MHz Commercial Services Band, and not be implemented in the Lower 700 MHz Band.[112] In this regard, Cingular and AT&T argue that the Lower 700 MHz Band, because of its higher maximum power limits, is well suited for new mobile applications that requires large license areas and therefore that any change in the size of service areas (*e.g.,* the use of smaller areas) should be limited to the Upper 700 MHz

(Continued from previous page)
Review Spectrum Aggregation Limits for Commercial Mobile Radio Services, WT Docket No. 01-14, Increasing Flexibility to Promote Access to and the Efficient and Intensive Use of Spectrum and the Widespread Deployment of Wireless Services, and to Facilitate Capital Formation, WT Docket No. 03-202, *Report and Order and Further Notice of Proposed Rulemaking*, 19 FCC Rcd 19078, 19096 ¶ 31 (2004) (*Rural Report and Order* and *Further Notice*, respectively). *See Lower 700 MHz Report and Order*, 17 FCC Rcd at 1050 ¶ 65, 1061-62 ¶ 96 (Commission sought to define an initial "scope of licenses" that can be "obtained and used by a wide range of entities and services."); Service Rules for Advanced Wireless Services in the 1.7 and 2.1 GHz Bands, WT Docket No. 02-353, *Order on Reconsideration*, 20 FCC Rcd 14058, 14066 ¶ 14 (2005) (*AWS-1 Order on Reconsideration*) ("RSAs and MSAs allow entities to mix and match rural and urban areas according to their business plans and that, by being smaller, these types of geographic service areas provide entry opportunities for smaller carriers, new entrants, and rural telephone companies"); Service Rules for Advanced Wireless Services in the 1.7 and 2.1 GHz Bands, WT Docket No. 02-353, *Report and Order*, 18 FCC Rcd 25162, 25175-77 ¶¶ 35-39 (2003) (*AWS-1 Report and Order*) (Commission determined that using a varied selection of areas will foster service to rural areas and promote the policy goal of disseminating licenses among a wide variety of applicants).

[106] *See, e.g.*, Balanced Consensus Plan; Aloha Comments in WT Docket No. 06-150 at 3; Corr Comments in WT Docket No. 06-150 at 3; U.S. Cellular Comments in WT Docket No. 06-150 at 2; T-Mobile Reply Comments in WT Docket No. 06-150 at 2-4; MilkyWay Comments in WT Docket No. 06-150 at 2-6; Leap Comments in WT Docket No. 06-150 at 5-6; RCA Comments in WT Docket No. 06-150 at 7; RTG Comments in WT Docket No. 06-150 at 2-8; MetroPCS Reply Comments in WT Docket No. 06-150 at 3.

[107] *See* Balanced Consensus Plan; U.S. Cellular Comments in WT Docket No. 06-150 at 3; Corr Comments in WT Docket No. 06-150 at 3; NTCA Comments in WT Docket No. 06-150 at 5-6.

[108] Of 104 winning bidders, 70 (67%) won CMA licenses only, and 21 (20%) won only EA and/or CMA licenses. *See* http://wireless.fcc.gov/auctions/66/charts/66cls2.pdf (providing auction results); *see, generally,* http://wireless.fcc.gov/auctions/66/ (providing additional information on the AWS auction).

[109] *See* 47 U.S.C. § 309(j)(3)(A).

[110] *See* 47 U.S.C. § 309(j)(3)(A), (4)(C)(iii).

[111] *See* 47 U.S.C. § 309(j)(3)(B), (4)(C).

[112] *See infra* Section IV.B.1.a (proposing smaller license areas in the Lower 700 MHz Band).

Commercial Services Band.[113] However, the Commission previously found that the maximum power limit in the Lower 700 MHz Band, with the associated non-interference requirement, would maximize both flexibility and freedom from harmful interference "for the widest number of potential services" in the Lower 700 MHz Band.[114] Smaller and rural operators also should have access to the benefits afforded by the higher power limits in the Lower 700 MHz Band. We note that the maximum power limit has enabled a licensee in the C Block of the Lower 700 MHz Band, C&W, to reach its entire service area from a single tower site. In this regard, C&W states that if the power limits for its Lower 700 MHz license were lowered, it would be forced to add towers at a great expense to continue to reach the outlying portions of its service area.[115] Another C Block licensee, Corr, states that potential services under active development include mobile TV and one-way data transfers, and with 50 kW of power, a licensee could provide such a broadcast service to a small or medium-sized metropolitan area.[116]

45. Consistent with our earlier findings with respect to license sizes in the Upper and Lower 700 MHz Bands,[117] we decline at this time to adopt nationwide licensing for any of the 700 MHz Commercial Services Band spectrum blocks, as requested by DIRECTV/EchoStar.[118] Given the ability of licensees to combine REAGs in the upcoming auction to create regional or nationwide service territories through standard bids, adopting nationwide licensing for a spectrum block is unnecessary.[119] Licensees will be able to seek to acquire and combine licenses based on REAGs, as well as licenses based on other area sizes, in order to achieve larger footprints, including nationwide coverage, if that is their goal. We note that bidders in Auction No. 66 were able to acquire multiple licenses so as to build larger footprints with geographic areas smaller than EAGs, including EA licenses.[120] Although we do not adopt

[113] *See* Cingular Reply Comments in WT Docket No. 06-150 at 9-10; AT&T Reply Comments in WT Docket No. 06-150 at 15-17.

[114] *Lower 700 MHz MO&O*, 17 FCC Rcd at 11621 ¶ 19; *see also Lower 700 MHz Report and Order*, 17 FCC Rcd at 1064 ¶ 103 (noting 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 operations, creating a consistent set of technical rules for all services in the Lower 700 MHz Band). *See also infra* Section III.A.2.c(iii) (retaining 50 kW power levels for incumbent Lower 700 MHz Band licensees).

[115] C&W Comments in WT Docket No. 06-150 at 5. C&W further states that such an action would force it to discontinue service on this spectrum due to the expense of continuing operations under these conditions. *Id*.

[116] Corr, an original licensee of C Block licensees which has assigned those licenses to its parent, states that it believed at the time it bid on the licenses, and still believes, that there may be a viable use for these licenses in providing digital broadcast services. Corr Comments in WT Docket No. 06-150 at 8-9. Corr states that potential services under active development include mobile TV and one-way data transfers, and with 50 kW of power, a licensee could provide such a broadcast service to a small or medium-sized metropolitan area. *Id*.

[117] *See Lower 700 MHz Report and Order*, 17 FCC Rcd at 1060-61 ¶ 94 (finding the use of EAGs to be preferable to the assignment of nationwide service areas despite efficiencies associated with nationwide service); *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 502 ¶ 61 (adopting EAGs with ability of licensees to partition and aggregate to provide maximum flexibility to parties to adjust their operating area most efficiently given marketplace and technological needs).

[118] DIRECTV/EchoStar Comments in WT Docket No. 06-150 at 3.

[119] *See AWS-1 Report and Order*, 18 FCC Rcd at 25176 ¶ 38.

[120] *See* http://wireless.fcc.gov/auctions/66/charts/66market.xls or http://wireless.fcc.gov/auctions/66/charts/66press_5.pdf (providing auction results, including Spectrum Co.'s acquisition of 136 EA licenses). *See also* MetroPCS Reply Comments in WT Docket No. 06-150 at 7; RTG Comments in WT Docket No. 06-150 at 5; Aloha Comments in WT Docket No. 06-150 at 6 (addressing SpectumCo.'s acquisition of licenses in Auction No. 66).

nationwide licensing in this Report and Order, in the Further Notice we seek comment on proposals that would provide for combinatorial bidding for certain blocks to promote new entry in this band.[121]

46. Likewise, we decline to adopt service areas smaller than CMAs, such as county-sized areas.[122] The Commission has not licensed spectrum across areas smaller than CMAs,[123] and we find that the 734 CMA licenses are small enough to help ensure widespread deployment of advanced services, including in rural areas, and allow participation for small and rural bidders. Also, given the excellent propagation characteristics in the 700 MHz Commercial Services Band, and the relatively small size of many counties, licensing 700 MHz Band spectrum on a county basis may result in spectral inefficiency.

47. We also decline to adopt as a part of the band plan for the 700 MHz Commercial Services Band geographic areas of other sizes, including MEAs.[124] Our decision in this Report and Order to adopt three different license sizes offers a sufficiently wide variety of service areas that may be acquired by both small and rural providers as well as large regional and nationwide providers, while minimizing complexity for bidders at auction and in our licensing process.

48. Further, we reject Milgrom/Wrege's recommendation that the boundaries of CMAs be adjusted so that each CMA is contained entirely within a single EA (or that the EAs be adjusted so that each EA comprises a set of CMAs), in the event the Commission decides to offer additional CMA license areas in the 700 MHz Commercial Services Band.[125] Adjusting the CMA licenses in such a manner would create license areas that do not match precisely the license areas for the Lower 700 MHz Band C Block spectrum, which have already been auctioned on a CMA basis.[126] We also note that such revisions could have an impact on operators that intend to match the 700 MHz Band spectrum with other spectrum which has been licensed over CMAs.

49. Because the band plan for the 700 MHz Commercial Services Band no longer contains EAGs, for the EAs, REAGs, and CMAs we will separately license the Gulf of Mexico with each of the following license divisions: EA licensing area 176; REAG licensing area 12; and MSA licensing area 306. We adopt: (i) the same definition of EAs set forth in Section 27.6(h) of the rules, currently applicable for AWS-1 spectrum, for EA licenses in the 700 MHz Commercial Services Band; (ii) the same definition of REAGs set forth in Section 27.6(h) of the rules, currently applicable for AWS-1 spectrum, for REAG licenses; and (iii) the same definition of MSA/RSAs set forth in Section 27.6(c), currently applicable to the C Block of the Lower 700 MHz Band, for CMAs. As we have done in licensing other Part 27 services, the Gulf of Mexico service area is comprised of the water area of the Gulf of Mexico starting 12 nautical miles from the U.S. Gulf coast and extending outward.

(ii) Secondary Markets

50. Background. The Commission has sought to provide access to spectrum by promoting the development of robust secondary markets in spectrum usage rights, removing unnecessary regulatory barriers and allowing entities seeking access to spectrum to enter into spectrum leasing arrangements with existing licensees. Specifically, in the 2003 *Secondary Markets Report and Order,* the Commission adopted rules to facilitate access to spectrum by permitting licensees and entities seeking spectrum access

[121] *See infra* Section IV.B.1.

[122] *See* Frontier Comments in WT Docket No. 06-150 at 5-6.

[123] *See Rural Report and Order*, 19 FCC Rcd at 19090 n.60.

[124] *See* Access Spectrum *et al*. Comments in WT Docket No. 06-150 at 23; MetroPCS Comments in WT Docket No. 06-150 at 11, 14 (proposing MEAs in connection with suggested division of D Block of Upper 700 MHz Band).

[125] Milgrom/Wrege Comments in WT Docket No. 06-150 at 2-3.

[126] In the Further Notice, we propose to license the Lower 700 MHz Band B Block on a CMA basis.

to enter into different types of spectrum leasing arrangements.[127] In the *Secondary Markets Second Report and Order*, adopted in 2004, the Commission extended its application of these rules to additional services and provided for immediate (*i.e.,* overnight) processing of certain classes of spectrum lease arrangements and applications for license transfers and assignments.[128]

51. In the *700 MHz Commercial Services Notice*, we sought comment on whether the Commission could further promote access to 700 MHz Commercial Services Band spectrum through revisions to its secondary markets policies and rules pertaining to partitioning, disaggregation, and spectrum leasing.[129] For instance, we sought comment on whether the Commission should revise its secondary markets rules to require licensees to make "good faith" efforts to negotiate with potential spectrum lessees. The *700 MHz Commercial Services Notice* observed that such a policy could take one of several forms, ranging from a requirement that licensees establish a point of contact for potential spectrum lessees, to a requirement for "good faith" negotiation that might stipulate that licensees have a minimum number of meetings with potential spectrum lessees and/or must provide their terms for an acceptable spectrum leasing arrangement.[130]

52. The majority of commenters addressing whether the Commission should adopt additional rules to promote secondary markets transactions oppose revisions to the current secondary markets rules. These parties include all of the CMRS providers that commented on this issue, as well as a technology provider, Qualcomm.[131] One small CMRS provider commenting on this issue, Corr, argues that the proposed new rules would be unnecessary and, to the extent leasing is not occurring regularly, the problem largely would be solved by the use of smaller geographic areas.[132] Only two commenters, including a group of state agencies, take a different view and recommend that the Commission consider a licensee's participation in secondary market transactions during the license renewal process.[133]

53. Discussion. We decline to adopt rules that would require 700 MHz Commercial Services Band licensees to make "good faith" efforts to negotiate with potential spectrum lessees, either as part of their performance requirements or as part of the criteria associated with license renewal. We believe that such changes are unnecessary given the other measures we are adopting to promote access to spectrum in the 700 MHz Commercial Services Band. As discussed above, these measures involve revising the 700 MHz Commercial Services band plan to include a mix of smaller geographic licensing areas.

54. Most commenters support a decision not to impose a "good faith" negotiation obligation

[127] Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, *Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 20604, 20649-77 ¶¶ 93-181 (2003) (*Secondary Markets Report and Order).* The spectrum leasing policies adopted in the *Secondary Markets Report and Order* applied generally to services licensed under Parts 22, 24, 27, 90, and 101 of the Commission's rules, including all Commercial Mobile Radio Services (CMRS) and various other services in which the licensee holds an "exclusive use" right. *Id.* at 20643 ¶ 84, fn. 181.

[128] Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, *Second Report and Order, Order on Reconsideration, and Second Further Notice of Proposed Rulemaking*, 19 FCC Rcd 17503, 17509-545 ¶¶ 10-84 (2004) ("*Secondary Markets Second Report and Order*")*.*

[129] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9376-77 ¶ 70.

[130] *Id.* at 9377 ¶ 71.

[131] *See, e.g.,* AT&T Comments in WT Docket No. 06-150 at 10-11; Aloha Partners Comments in WT Docket No. 06-150 at 12-13; CTIA Comments in WT Docket No. 06-150 at 16-17; Corr Wireless Comments in WT Docket No. 06-150 at 5-6; Qualcomm Comments in WT Docket No. 06-150 at 19-20; Verizon Wireless Comments in WT Docket No. 06-150 at 6.

[132] Corr Wireless Comments in WT Docket No. 06-150 at 7.

[133] *See* Howard/Javed Comments in WT Docket No. 06-150 at 28-30; Vermont Public Service Commission *et al.* Comments in WT Docket No. 06-150 at 12.

on the 700 MHz Commercial Services Band licensees. Some of these commenters argue that such a requirement would be unnecessarily burdensome and could lead to uneconomic decisions.[134] Aloha is concerned that requiring licensees to make "good faith" efforts to negotiate with potential lessees would be "a very complex can of worms" with little or no corresponding benefit.[135] AT&T observes that a "good faith" requirement could encourage efforts to obtain access to this spectrum at below-market prices.[136] CTIA argues that the proposed modifications would increase transaction costs and would be contrary to the Commission's objectives in promoting secondary markets.[137]

55. Commenters supporting the adoption of a "good faith" requirement argue that the Commission should consider a licensee's secondary markets participation as part of its license renewal process.[138] We note, however, that the Commission's current spectrum leasing rules already provide a licensee with significant incentives to enter into spectrum leasing arrangements because licensees may rely on the activities of its spectrum lessee(s) for purposes of complying with the licensee's construction requirements.[139] We conclude that our decision to adopt a mix of geographic license area sizes, combined with our existing secondary markets rules, are sufficient to promote access to spectrum. Accordingly, we decline to adopt further secondary markets requirements at this time.

b. Auctions-Related Issues

(i) Aggregating Licenses

56. Background. In the *700 MHz Commercial Services Notice*, we sought comment on whether Commission action is necessary or desirable to facilitate the aggregation of existing 700 MHz Band licenses with new licenses the Commission may grant. In the *700 MHz Commercial Services Notice*, we observed that such aggregation could be facilitated by a single auction in which licenses for spectrum previously assigned as well licenses for unassigned spectrum in the 700 MHz Band could be offered for sale, a mechanism sometimes referred to as a "two-sided" auction.[140] For example, spectrum assigned pursuant to existing licenses could be included in an auction by issuing vouchers to the existing licensees in exchange for their licenses. The amount of the vouchers could be determined by winning bids for licenses covering the returned spectrum. The vouchers could be used to offset winning bids in the auction, and possibly other Commission auctions as well.

57. As part of a wider-reaching proposal to revise the Upper 700 MHz band plan, Access Spectrum *et al*. support returning their 700 MHz Guard Band licenses in exchange for a bidding credit.[141] DIRECTV/EchoStar see a benefit in making previously licensed spectrum available in an auction of new

[134] *See, e.g.,* AT&T Comments in WT Docket No. 06-150 at 10-11; Corr Wireless Comments in WT Docket No. 06-150 at 6; Qualcomm Comments in WT Docket No. 06-150 at 19-20.

[135] *See* Aloha Partners Comments in WT Docket No. 06-150 at 12.

[136] *See* AT&T Comments in WT Docket No. 06-150 at 10-11.

[137] *See* CTIA Comments in WT Docket No. 06-150 at 17.

[138] *See, e.g.,* Howard/Javed Comments in WT Docket No. 06-150 at 28; Vermont Department of Public Service *et al.* Comments in WT Docket No. 06-150 at 12.

[139] *See Secondary Markets Report and Order*, 18 FCC Rcd at 20655 ¶¶ 114-115 (for spectrum manager leases), 20667 ¶146 (for *de facto* transfer leases). *See also* 47 C.F.R. 1.9020(d)(5), 1.9030(d)(5).

[140] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9372-73 ¶¶ 57-59.

[141] Access Spectrum *et al*. Comments in WT Docket No. 06-150 at 29-31.

licenses.[142] Others, including Blooston and Corr, voice support for a "two-sided" auction provided that the return of existing licenses is voluntary.[143]

58. Discussion. Based on the record and the circumstances present here, we conclude that the public interest would be better served by relying on the existing secondary market to aggregate existing and new licenses rather than attempting to develop new rules and policies for incorporating existing 700 MHz Commercial Services licenses into an auction of new licenses. Parties bidding on new licenses should be able to accurately value those licenses, even absent an opportunity to simultaneously aggregate new with existing licenses. New licenses in the 700 MHz Commercial Services spectrum can be used independently of existing licenses. Applicants will be able to seek any of multiple new licenses, of varying geographic size, to serve any given location. Thus, the value of the new licenses is unlikely to depend significantly upon a party's ability to aggregate existing and new licenses. Moreover, the interests of aggregators are likely to be met in large part by the existing secondary market. Accordingly, we conclude that no new rules or policies are needed to facilitate aggregation of existing and new 700 MHz Commercial Services licenses in order to increase the likelihood that these licenses will be assigned to the parties most likely to put them to their most effective use.

(ii) Bidding Preferences

59. Background. Certain commenters advocate that the Commission set aside 700 MHz Commercial Services licenses for designated entities or, if not, that the Commission adopt a third small business definition under which eligible applicants would receive a 35% bidding credit. In particular, certain commenters representing rural providers, small entities, and others argue that the Commission should set aside spectrum blocks for designated entities, as it did in 1994 for auctions of PCS Broadband spectrum licenses.[144] In reply comments, other parties argue that set-asides are not necessary and were rejected in the AWS proceeding.[145]

60. In the event the Commission does not adopt the set-aside it proposes, Council Tree argues that the Commission must adopt an additional 35% bidding credit for the applicants with average attributable net revenues not exceeding $3 million.[146] Council Tree notes that the Commission offered such a credit with respect to licenses for the Lower 700 MHz C Block. No other party addresses this proposal.

61. In addition, as part of a larger band plan proposal, Access Spectrum *et al*. propose bidding credits for commercial licensees that commit to providing access to spectrum for 700 MHz public safety services.[147] Cingular and MetroPCS oppose this proposal in reply comments.[148]

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[142] DIRECTV/EchoStar Comments in WT Docket No. 06-150 at 10.

[143] Blooston Comments in WT Docket No. 06-150 at 5, Corr Comments in WT Docket No. 06-150 at 10-12. *See also* Qualcomm Comments in WT Docket No. 06-150 at 19 ("does not oppose this proposal since it . . . would be entirely voluntary").

[144] *See, e.g.,* NTCA Comments in WT Docket No. 06-150 at 8-11; OPASTCO Comments in WT Docket No. 06-150 at 3-4; RTG Comments in WT Docket No. 06-150 at 8; Council Tree Communications, Inc. (Council Tree) Comments in WT Docket No. 06-150 at 11-13.

[145] *See, e.g.,* AT&T Reply Comments in WT Docket No. 06-150 at 14-15; Cingular Reply Comments in WT Docket No. 06-150 at 10-11; USCC Reply Comments in WT Docket No. 06-150 at 16-17.

[146] Council Tree Comments in WT Docket No. 06-150 at 13-15. For these bands, the Commission previously adopted bidding credits of 25% and 15% for applicants with average attributable gross revenues not exceeding $15 million and $40 million, respectively. *See* 47 C.F.R. §§ 1.2110(f)(2), 27.502, 27.702.

[147] *See* Access Spectrum *et al*. Comments in WT Docket No. 06-150. In contrast to Access Spectrum *et al.*'s proposal for bidding credits in exchange for Public Safety service commitments, existing rules and practice generally provide bidding preferences for certain types of applicants rather than for applicants committing to provide (continued….)

62. Discussion. We reject the suggestions of certain commenters that the Commission set aside licenses in the 700 MHz Commercial Services Band auction solely for designated entities and Council Tree's argument that we adopt a third small business definition to provide for a 35% bidding credit. Consistent with our tentative conclusion not to adopt Access Spectrum *et al.*'s band plan proposal and in light of various difficulties in implementing such a bidding credit, we also do not adopt a bidding credit based on providing access to spectrum for 700 MHz public safety services.

63. Although the Communications Act requires that the Commission ensure that "designated entities"[149] are given the opportunity to participate in the provision of spectrum-based services and, for such purposes, consider the use of bidding preferences,[150] these preferences can take many forms. In an early attempt to meet these mandates, the Commission set aside blocks of spectrum in the Broadband PCS band to be held by designated entities. The Commission's experience in Broadband PCS auctions and subsequent auctions has demonstrated, however, that bidding credits for designated entities afford such entities substantial opportunity to compete with larger businesses for spectrum licenses and provide spectrum-based services. For example, Auction No. 66 demonstrated very recently that designated entities can succeed in auctions for licenses for valuable spectrum without any set-asides. In Auction No. 66, more than half the winning bidders were designated entities that received discounts on their gross winning bids and designated entities won over twenty percent of the licenses sold.[151] Moreover, setting aside licenses risks denying the licenses to other applicants that may be more likely to use them effectively or efficiently for the benefit of consumers. Potentially excluding such applicants could compromise the Commission's pursuit of various statutory objectives including promoting the development and deployment of new technologies, products, and services for the benefit of the public and promoting efficient and intensive use of the spectrum.[152]

64. We reject the arguments of certain commenters that setting aside 700 MHz Commercial Services licenses is essential to ensuring service in particular areas, especially rural areas. We are adopting other, very significant measures that directly serve this goal. For example, our decision to use smaller geographic areas reduces the cost of some licenses, creating opportunities for more potential licensees, including those focusing on serving rural areas in particular CMAs. The more stringent performance requirements we adopt here will also promote service to rural and underserved areas. There can be no assurance that the designated entities will provide any particular service, such as service in rural

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certain services. The Commission has noted in prior proceedings "that there is no support in either the Communications Act or prior Commission decisions for creating a bidding credit for providing Public Safety services." Amendments to Parts 1, 2, 27 and 90 of the Commission's Rules to License Services in the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands, WT Docket No. 02-8, *Report and Order*, 17 FCC Rcd 9980, 10023 ¶109 (2002) (*Government Transfer Bands R&O*). Nonetheless, the Commission has created bidding credits to encourage service to underserved tribal lands, without regard to whether the provider is a designated entity. *See generally* 47 C.F.R. §1.2110(f)(3). *See also Government Transfer Bands R&O*, 17 FCC Rcd at 10024 ¶109 n.365 (noting that the tribal lands bidding credit is outside of the designated entity context).

[148] Cingular Reply Comments in WT Docket No. 06-150 at 16; MetroPCS Reply Comments in WT Docket No. 06-150 at 18-19.

[149] One of the statutory objectives the Commission must seek to promote when using its competitive bidding authority is the dissemination of licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women, sometimes collectively referred to as "designated entities." 47 U.S.C. §309(j)(3)(B).

[150] 47 U.S.C. §309(j)(4)(D).

[151] *See* http://wireless.fcc.gov/auctions/66/charts/66cls2.pdf (providing auction results); *see, generally,* http://wireless.fcc.gov/auctions/66/ (providing additional information on the AWS auction).

[152] *See* 47 U.S.C. § 309(j)(3).

areas, that would not be provided by others. Finally, our statutory mandate with respect to bidding preferences is to provide an opportunity for designated entities to engage in the provision of spectrum-based services. As noted above, we conclude that bidding credits, in conjunction with the other policies adopted here, afford sufficient opportunity.

65. We also reject Council Tree's request that, in the absence of a set-aside, the Commission should adopt a third small business definition to provide a third level of bidding credit. Our current rules for 700 MHz Commercial Services Band licenses provide for two bidding credits, 25% for applicants with attributable gross revenues not exceeding $15 million and 15% for applicants with attributable gross revenues not exceeding $40 million.[153] We find distinguishable in a number of respects the Commission's previous adoption of a third bidding credit tier when it adopted CMA licenses for the Lower 700 MHz C Block. An explicit consideration in the adoption of that additional bidding credit was the fact that, pursuant to the then-current band plan, all other blocks of spectrum in these bands would be licensed by EAGs.[154] In light of the strong interest expressed by smaller bidders in that then-single block of non-EAG licenses, we concluded that an additional bidding credit tier would increase opportunities for bidders with little other access to 700 MHz spectrum. However, today we revise the sizes of the geographic area licenses to include CMA licenses and EA licenses. In light of these revisions and the prior opportunities afforded with CMA licenses in the Lower 700 MHz Band C Block, an additional small business definition to provide a third level of bidding credit with respect to the new CMA licenses is not necessary to assure designated entities sufficient opportunity in this band. This conclusion is consistent with recent decisions with respect to licenses for AWS. In AWS, the Commission rejected a similar Council Tree proposal for a third bidding credit tier.[155] The Commission distinguished the prior use of a third tier in the Lower 700 MHz C Block in part on the grounds that "all of the other licenses in that [700 MHz] service were based on large, regional geographic areas."[156] Furthermore, we are not persuaded by Council Tree's claims with respect to the performance of designated entities in recent auctions. The performance of designated entities in Auction No. 66 demonstrates the strength of the Commission's size-based bidding credits in creating opportunities for small businesses rather than a need for additional credits.

66. With respect to the Access Spectrum *et al.* proposal to create a bidding credit for entities providing specified assistance to 700 MHz public safety service providers, such a credit would be difficult to define and enforce. In particular, the Commission would have to determine what constitutes an adequate commitment; how to avoid a bidding credit over- or under-compensating applicants for the commitment; how to evaluate compliance; and how to enforce provision of service to public safety entities. In light of the attendant difficulties, as well as the Commission's ability and commitment to promote the public interest in the provision of wireless public safety services by other means, we decline to adopt Access Spectrum *et al.*'s proposal.

(iii) Competitive Bidding and Aggregating New Licenses

67. Background. In the *700 MHz Commercial Services Notice*, we sought comment on whether any changes to the Commission's competitive bidding rules are necessary or desirable in order to facilitate efficient aggregation of new licenses, in light of the existing spectrum blocks for 700 MHz Commercial Services licenses and any spectrum blocks that may be proposed.[157] The *700 MHz*

[153] *See* 47 C.F.R. §§ 1.2110(f)(2), 27.502, 27.702.

[154] *See Lower 700 MHz Report and Order*, 17 FCC Rcd at 1088 ¶ 173.

[155] *AWS-1 Order on Reconsideration*, 20 FCC Rcd at 14075-77 ¶¶ 32-36.

[156] *Id*. at n.113.

[157] *700 MHz Commercial Services Notice,* 21 FCC Rcd at 9372 ¶ 56.

Commercial Services Notice did not seek comment specifically on whether to utilize a combinatorial or package bidding auction format.

68. Commenters interested in large aggregations, including DIRECTV/EchoStar and Motorola, advocate for package bidding.[158] Milgrom/Wrege, as well as Access Spectrum *et al.*, note that the Commission's current package bidding system, which permits bidders to create any possible combination of licenses, limits each bidder to at most one winning bid and may be considered impracticable for auctions with more than a thousand licenses, due in part to the variety of bids each bidder may wish to place given that only one bid can become a winning bid.[159] Milgrom/Wrege suggest modifications to the Commission's system and also suggest that the Commission conduct a Public Forum in advance of the pre-auction Public Notices to consider the modifications. MetroPCS argues that the results of Auction No. 66 demonstrate that package bidding is not necessary for parties to aggregate large numbers of licenses.[160] Finally, U.S. Cellular opposes package bidding, arguing that its complexities and uncertainties may deter participation.[161]

69. Discussion. The Commission's current competitive bidding rules authorize the use of package bidding and the Commission already has utilized a form of package bidding.[162] Consequently, the question before us now is whether we need to make changes to our competitive bidding rules in order to enable a new form of package bidding for the 700 MHz Commercial Services auction. We conclude that modifications to our current bidding systems, including those suggested by commenters, can be made without modifying the Commission's competitive bidding rules.

(iv) Modifications to the Tribal Land Bidding Credit

70. Background. In the *700 MHz Commercial Services Notice*, we sought comment on whether the Commission should make any adjustments to its tribal land bidding credit rules as they apply to the 700 MHz Commercial Services licenses to be auctioned. We also specifically asked commenters to address use of the tribal land bidding credit given statutory requirements that the Commission deposit the proceeds from an auction in the Digital Television Transition and Public Safety Fund no later than June 30, 2008. Depending on auction timing, it may be difficult for the Commission to grant license applications seeking tribal land bidding credits prior to the statutory deadline. To foreclose potential issues that tribal land bidding credits might create with respect to the statutory deadline, the Commission asked whether promoting deployment of wireless services to tribal lands would be better served with respect to the 700 MHz Band by exploring other means to promote access to spectrum and the provision of service in tribal lands.[163]

71. Commenters did not address the relationship between post-auction credits and the deadline for depositing payments. CTIA states its support for tribal land bidding credits with respect to promoting service on tribal lands without any further discussion.[164]

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[158] DIRECTV/EchoStar Comments in WT Docket No. 06-150 at 7-8, Motorola Comments in WT Docket No. 06-150 at 8.

[159] Access Spectrum *et al.* Comments in WT Docket No. 06-150 at 26-27; Milgrom/Wrege Comments in WT Docket No. 06-150 at 4-9.

[160] MetroPCS Comments in WT Docket No. 06-150 at 5.

[161] USCC Comments in WT Docket No. 06-150 at 11-12.

[162] *See* Auction of Regional Narrowband PCS Licenses Scheduled for September 24, 2003; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, Package Bidding and Other Auction Procedures, 18 FCC Rcd 11974 (2003).

[163] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9378-79 ¶ 75.

[164] CTIA Comments in WT Docket No. 06-150 at 17-18.

72. Discussion. No parties provided suggestions for possible modifications to our tribal land bidding credit rules to promote the deployment of wireless services to tribal lands or addressed the relationship between post-auction credits and the deadline for depositing payments. In light of the record, we conclude that we need not modify the tribal land bidding credit at this time.

c. Additional Rules for Licensees

(i) Criteria for Renewal

73. Background. In the *700 MHz Commercial Services Notice*, we sought comment on whether to amend our rules to clarify or modify the requirements and procedures of the renewal process for licenses in the 700 MHz Commercial Services Band, including licenses that have already been auctioned and those that have yet to be auctioned. Specifically, we sought comment on the possibility of amending our rules to state more explicitly the criteria for renewal that apply to these 700 MHz authorizations under Part 27, regardless of whether licensees are involved in a comparative hearing.[165] In addition, to the extent the Commission's renewal requirements and at least some of its performance requirements apply at the end of a license term, we requested comment on the advantages and disadvantages of combining any performance requirements applicable to 700 MHz licensees with the review process that the Commission conducts during a license renewal application.[166] Finally, we sought comment on whether to adopt a new renewal process to replace the procedures for the filing of competing applications at renewal time.[167]

74. The renewal of 700 MHz Commercial Services licenses is governed by Parts 1 and 27 of the Commission's rules. Section 1.949 of the Commission's rules sets forth the general procedures for filing applications for renewal of licenses in the wireless radio services, including services in the 700 MHz Commercial Services Band.[168] Although the rule states that "[a]dditional renewal requirements applicable to specific services are set forth in the subparts governing those services,"[169] Part 27 contains no provisions on the specific renewal process to the extent a competing application is not received. In addition, Section 27.14(b)-(d) of the Commission's rules, which indicates that a comparative process is used to choose among renewal and competing applicants,[170] does not describe the type of comparative hearing to be employed. If a 700 MHz Commercial Services licensee's renewal application is not contested and no competing applications are received, then the licensee has no affirmative renewal filing obligation codified in the rules, other than the contemporaneous filing obligation of demonstrating that it has met the "substantial service" performance requirement in Section 27.14(a).[171] In the event that a competing application is filed under Section 27.14(b)-(d) of the rules,[172] however, a 700 MHz licensee

[165] *700 MHz Commercial Services Notice,* 21 FCC Rcd at 9380-81 ¶¶ 80-81.

[166] *Id*. at 9381-82 ¶ 82.

[167] *Id.* at 9382-83 ¶ 83. For instance, the licenses could be returned to the Commission for re-auction should a license not be renewed. We also asked commenters to address whether any amendments of its rules on the renewal process should be limited to the unauctioned 700 MHz licenses, or whether any such amendments also should apply to those 700 MHz licenses which already have been auctioned in order to have a unitary regime for these licenses.

[168] 47 C.F.R. § 1.949. Specifically, it states that a renewal application must be filed no later than the expiration date of the authorization and no sooner than 90 days prior to expiration. *Id*. § 1.949(a).

[169] 47 C.F.R. § 1.949(a).

[170] *See* 47 C.F.R. § 27.14(b)-(d).

[171] That standard has not been defined in Commission rules, and commenters strongly objected to the suggestion in the *700 MHz Commercial Services Notice* that the Commission adopt specific criteria. *See infra* Section IV.B.1.c.

[172] To date, the Commission has never received a competing application to a 700 MHz license renewal, nor, for that matter, to the renewal of any wireless radio service license under Part 27.

has the burden of making a detailed showing explaining why it should receive a renewal expectancy against any competing application.

75. Discussion. In this section, we clarify that all licensees in the 700 MHz Commercial Services Band seeking renewal of their authorizations at the end of their license term must file a renewal application in accordance with the provisions of Section 1.949 of the Commission's rules. Consistent with existing rules, as part of this renewal requirement licensees must demonstrate in their applications that they have provided substantial service during their past license term, which is defined as service that is sound, favorable, and substantially above a level of mediocre service that just might minimally warrant renewal. This requirement is distinct from performance requirements. Substantial service in the renewal context, as opposed to the coverage benchmarks established for the performance requirement context, encompasses Commission consideration of a variety of factors including the level and quality of service, whether service was ever interrupted or discontinued, whether service has been provided to rural areas,[173] and any other factors associated with a licensee's level of service to the public.[174] Accordingly, a licensee that meets the applicable performance requirements might nevertheless fail to meet the substantial service standard at renewal. Licensees must demonstrate at renewal that they have substantially complied with all applicable Commission rules, policies, and the Communications Act of 1934, as amended, including any applicable performance requirements.

76. Under the revised Section 27.14 of the Commission's rules, we also are eliminating the filing of competing applications to requests for renewal of these 700 MHz licenses. We are mindful of the potential costs and the burdens they impose on both the Commission and licensees. We agree with MetroPCS that such administrative processes "harken[] back to an old era . . . where competitors were known to file 'strike' applications against a renewal in the hope of getting a payoff."[175] Under the revised Section 27.14 of the Commission's rules, we are therefore adopting a process by which 700 MHz Commercial Services Band licenses comes back to the Commission for re-auction if a license is not renewed. The existing petition to deny process,[176] coupled with the ability of a petitioner to participate in any subsequent auction to re-license spectrum that is returned to the Commission for lack of renewal, creates sufficient incentives to challenge inferior service or poor qualifications of licensees at renewal. This approach protects the public interest without creating incentives for speculators to file "strike" applications.

77. By eliminating the filing of competing applications at renewal, we find that the concerns raised by the majority of commenters in this proceeding about renewal expectancies are moot. We recognize that the majority of commenters that addressed renewal issues did not support any changes to the Part 27 renewal rules applicable to 700 MHz Commercial Services Band licensees. Moreover, some of these commenters, such as AT&T and CTIA expressed concern that any revision to the rules governing

[173] We note, for example, that the Commission stated in the *Upper 700 MHz Report and Order* that a licensee "that limits buildout to urban areas and areas with high density population, will not necessarily be ensured of license renewal, even if otherwise compliant with the construction benchmarks," and added its belief that substantial service "requires the licensee to buildout in rural areas as well." *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 505 ¶ 71.

[174] As we have had the authority to do in the past on a case-by-case basis, we could nevertheless condition the renewal of any 700 MHz license on a specific level of compliance with one or more of these or any other relevant factors. In addition, once specific 700 MHz service offerings have had a chance to develop on a basis comparable to that of, *e.g.*, PCS, we plan to revisit these factors to the extent we determine that a particular problem or issue requires regulatory relief through the renewal review process.

[175] *See* MetroPCS Comments in WT Docket No. 06-150 at 17.

[176] Existing provisions in Part 1 provide procedures for petitions to deny, application dismissals, and rules for subsequent re-licensing through competitive bidding. *See generally* 47 C.F.R. § 1.901 *et seq.*; *see also id.* § 27.501 *et seq.*; § 27.701 *et seq.*

renewal proceedings would eliminate the concept of "renewal expectancy" that applied in comparative hearings.[177] Because smaller carriers and rural interests in particular seemed concerned that certain rule changes would place a new burden on carriers ill equipped to meet it, we have decided to maintain 700 MHz Commercial Services Band licensees' expectations of renewal by eliminating provisions for competing applications. This action provides additional certainty for all 700 MHz Commercial Services Band licensees, and requests by certain commenters to do otherwise could result in additional administrative burdens on licensees that we find not to be in the public interest.

(ii) License Terms

78. Background. Section 27.13(b) of the Commission's rules provides that initial license authorizations for spectrum in the 700 MHz Commercial Services Band 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.[178]

79. In the *700 MHz Commercial Services Notice*, we sought comment on whether and how the license terms of unauctioned and previously auctioned licenses in the 700 MHz Commercial Services Band should be revised, including whether the term for these 700 MHz licenses should be extended beyond January 1, 2015.[179] We also asked for comment on whether to establish a uniform license term for all services in the 700 MHz Commercial Services Band, regardless of their regulatory status.

80. Nearly all commenters who addressed this issue support revising the current rule to provide either a ten- or fifteen-year initial license term. Ten of these commenters support a 15-year term,[180] and eight commenters support a 10-year term.[181] Only two commenters objected to extending the license terms of these 700 MHz licensees.[182]

81. In addition, nine commenters argue that any revised license terms should apply to both unauctioned and auctioned 700 MHz Commercial Services Band licenses.[183] As part of their proposal,

[177] *See* AT&T Comments in WT Docket No. 06-150 at 15; CTIA Comments in WT Docket No. 06-150 at 18.

[178] 47 C.F.R. § 27.13(b).

[179] *See 700 MHz Commercial Services Notice*, 21 FCC Rcd at 9383-85 ¶¶ 84-89.

[180] Alltel Reply Comments in WT Docket No. 06-150 at 5; Aloha Comments in WT Docket No. 06-150 at 10-11; AT&T Reply Comments in WT Docket No. 06-150 at 3, 25-26; C&W Comments in WT Docket No. 06-150 at 4; Cingular Reply Comments in WT Docket No. 06-150 at 2; CTIA Comments in WT Docket No. 06-150 at 19-20; Frontier Comments in WT Docket No. 06-150 at 8; MetroPCS Reply Comments in WT Docket No. 06-150 at 13-14 (supports a 15 year term, or a ten year term at a minimum); Navajo Nation Comments in WT Docket No. 06-150 at 3; NextWave Reply Comments in WT Docket No. 06-150 at 15.

[181] Access Spectrum *et al.* Comments in WT Docket No. 06-150 at 35; Blooston Comments in WT Docket No. 06-150 at 7-8 (supports at least 10 years after DTV transition), Corr Comments in WT Docket No. 06-150 at 4; Dobson Comments in WT Docket No. 06-150 at 11; Motorola Reply Comments in WT Docket No. 06-150 at 5-6 (commenting that it would support an even longer term); Union Comments in WT Docket No. 06-150 at 6; Verizon Wireless Comments in WT Docket No. 06-150 at 10; Vermont Department of Public Service *et al*. in WT Docket No. 06-150 Comments at 11. *See also* RCA Reply Comments in WT Docket No. 06-150 at 4 (appearing to assume a 10-year term in discussing performance requirements); RCA Comments in WT Docket No. 06-150 at 8-9.

[182] DIRECTV/EchoStar Comments in WT Docket No. 06-150 at 10-11; Howard/Javed Comments in WT Docket No. 06-150 at 25.

[183] *See* Aloha Comments in WT Docket No. 06-150 at 11; Blooston Comments in WT Docket No. 06-150 at 7-8; Corr Comments in WT Docket No. 06-150 at 4; Dobson Comments in WT Docket No. 06-150 at 11; Frontier Comments in WT Docket No. 06-150 at 8; MetroPCS Reply Comments in WT Docket No. 06-150 at 13; Motorola Reply Comments in WT Docket No. 06-150 at 5-6; Navajo Nation Comments in WT Docket No. 06-150 at 3. *See also* NextWave Reply Comments in WT Docket No. 06-150 at 15 (extend term "for 700 MHz providers").

Access Spectrum *et al.* urge that license terms for the Guard Band A Block in the Upper 700 MHz Band should be harmonized with the Upper 700 MHz Commercial Services Band licenses.[184] Two commenters discuss revising license terms only for unauctioned licenses.[185] One commenter specifically opposes changing the initial license terms for previously unauctioned spectrum, and its position depends on the whether the Commission increases the performance requirements for the unauctioned 700 MHz Commercial Services spectrum.[186]

82. Discussion. We will revise our rules to provide that initial authorizations for the 700 MHz Commercial Services Band will have a term not to exceed 10 years from February 17, 2009, which is the firm deadline for the DTV transition. Subsequent renewals will be for terms not to exceed 10 years. This revised license term will apply to all licenses in the 700 MHz Commercial Services Band. However, because Section 307(c)(1) of the Communications Act provides that a license for operating a broadcast station shall not be granted for a term that exceeds 8 years, we retain the current provision 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.[187] We do not revise the license term for Guard Band licensees because such revisions fall beyond the scope of the 700 MHz Commercial Services proceeding.[188]

83. We are extending the revised license term to both the already auctioned and unauctioned licenses in the 700 MHz Commercial Services Band. We find that uniformly extending the license term in this manner provides a level of parity for services within the same band. In addition, this treatment recognizes that band clearing and the resulting unencumbered use of the spectrum in the pre-DTV Act period was tied to a transition scheme that has now been replaced with a firm statutory transition date of February 17, 2009.[189] Specifically, the underlying reason behind the current rule changed with passage of the DTV Act. The Commission previously determined that a definite termination date, *e.g.*, January 1, 2015, was preferable to a discrete term of years following the end of the DTV transition, which at that time was subject to extension on a market-by market basis.[190] The same license terms that were adopted in the *Upper 700 MHz First Report and Order* were applied to licenses in the Lower 700 MHz Band.[191] However, the DTV Act's uniform deadline for the DTV transition has effectively removed the issue of market-by-market broadcast incumbency. Under these circumstances, we provide a level of uniformity

[184] Access Spectrum *et al.* Comments in WT Docket No. 06-150 at 35.

[185] *See* Union Comments in WT Docket No. 06-150 at 6; Verizon Wireless Comments in WT Docket No. 06-150 at 10.

[186] Vermont Department of Public Service *et al.*Comments in WT Docket No. 06-150 at 11.

[187] 47 U.S.C. § 307(c)(1); see also 47 C.F.R. § 73.1020(a).

[188] We also note that we did not seek comment on possible revisions to the license term for Guard Band licenses in the 700 MHz Guard Bands proceeding. *See generally 700 MHz Guard Bands Notice*, 21 FCC Rcd 10413.

[189] Prior to the DTV Act, the Commission was required to grant extensions 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 were not broadcasting in digital, digital-to-analog converter technology was not generally available, or 15 percent or more of television households were not receiving a digital signal. 47 U.S.C. § 309(j)(14)(B)(i)-(iii) (2005). *See also 700 MHz Commercial Services Notice*, 21 FCC Rcd at 9350 ¶ 7, 9350-51 ¶ 9, 9356-57 ¶ 18 (discussing extension of DTV transition prior to DTV Act, the transition under the DTV Act, and the current license term for 700 MHz licensees).

[190] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 504 ¶ 67, n.161, *on recon*. 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, 20862-63 45 (2000); *see also* 47 U.S.C. 309(j)(14)(B)(i)-(iii) (2005).

[191] *See Lower 700 MHz Report and Order*, 17 FCC Rcd at 1077 ¶ 145.

by extending the revised license terms to all licensees in the 700 MHz Commercial Services Band, except for those engaging in broadcast services.

84. We find that a term not to exceed 10 years from February 17, 2009, should be used for initial authorizations in the 700 MHz Commercial Services Band, and that subsequent renewal terms will be 10 years. A ten-year license term is consistent with most other Part 27 services, with the exception of recently auctioned AWS-1 licenses, which we address below,[192] as well as with the license terms for other similar spectrum, such as that used for cellular service and PCS.[193] In addition, this period will offer licensees regulatory certainty and help promote investment in the band. Under the current rules, all licensees would have terms that extend until January 1, 2015, which is only approximately six years from the end of the DTV transition. Thus, licensees that acquire their authorizations in a future auction would have had an initial license term less than ten years, and more likely for a shorter period, *i.e.*, six or seven years, depending on the date of the auction and issuance of the authorizations. In similar fashion, current licensees in the 700 MHz Commercial Services Band would only have approximately six years of access to their spectrum free from broadcasters. We find that a longer period should be made available to all licensees in order to provide sufficient time for the recovery of costs related to the development and deployment of new services, especially those based on technologies that are more advanced, more expensive, and which may take longer to develop. The 700 MHz Commercial Services Band is a likely band for the use of these more advanced technologies and we are concerned that a license term that expires only six years from the DTV transition provides too short a time period.

85. We decline to increase the length of initial or renewal terms to fifteen years. We disagree with those commenters such as Aloha, CTIA, and Frontier who argue that parity with AWS-1 services mandates a fifteen-year term for 700 MHz services.[194] The "relocation and band clearance issues" that provided the rationale for the fifteen-year initial licenses for AWS-1 services do not apply here.[195] The date certain of February 17, 2009, for the end of the DTV transition means that spectrum in the 700 MHz Band will be clear for use by 700 MHz Band licensees as of that date.[196]

86. We also disagree with DIRECTV/EchoStar, which believes that the current license term should be retained in order to promote prompt use of the spectrum,[197] and with Howard/Javed, who argue that the current rule should be kept to spur the development of a secondary market.[198] The combination of our decisions in this Report and Order and our secondary markets policies make it unlikely that this highly valued spectrum will sit unused. The Commission's secondary market spectrum leasing policies

[192] *See* 47 C.F.R. 27.13, describing initial license terms for licensees in the 2305-2320 MHz and 2345-2360 MHz Bands (ten years), 1390-1392 MHz Band (ten years), 1392-1395 MHz and 1432-1435 MHz Bands (ten years), 1670-1675 MHz Band (ten years).

[193] *See* 47 C.F.R. §§ 22.513(e), 24.15.

[194] *See* Aloha Comments in WT Docket No. 06-150 at 10-11; CTIA Comments in WT Docket No. 06-150 at 19-20; Frontier Comments in WT Docket No. 06-150 at 8-9.

[195] *See AWS-1 Report and Order*, 18 FCC Rcd at 25190 ¶ 70.

[196] *See* DTV Act § 3002; *see also* H.R. Conf. Rep. No. 109-362 (2005), *reprinted in* 2006 U.S.C.C.A.N. 3 (conference report for DTV Act)

[197] *See* DIRECTV/EchoStar Comments in WT Docket No. 06-150 at 11 (DIRECTV and EchoStar are concerned that "any such extension would reduce the amount of spectrum in play and therefore make new entry more difficult…. The public interest demands that whomever the Commission licenses to use this spectrum do so in a timely manner.").

[198] *See* Howard/Javed Comments in WT Docket No. 06-150 at 28 (commenting that the current license terms should remain as an incentive to promoting a vigorous secondary market in spectrum leases, and argue that a shorter initial license period is one way to keep licensees from being able to "costlessly hold spectrum" for anticompetitive reasons, *i.e.*, spectrum warehousing).

focus on promoting spectrum leasing arrangements, and we have taken steps in this Report and Order to improve use of the spectrum, including the provision of a mix of geographic license areas consisting of CMAs, EAs, and REAGs.[199]

87. Finally, because of the specifically applicable statutory limitation, we will retain the current requirement that 700 MHz Commercial Services Band licensees commencing broadcast services will be required to seek renewal of their licenses for such services prior to the termination of the eight-year term following commencement of such operations.[200] As stated above, Section 307(c)(1) of the Communications Act provides that licenses granted for operating broadcast stations "shall be for a term not to exceed 8 years."[201]

(iii) Power Limits for Lower 700 MHz Band and Upper 700 MHz Commercial Services Band Base Stations

88. Background. The power limit for base stations operating in both the Lower 700 MHz Band and the Upper 700 MHz Commercial Services Band is 1 kW ERP.[202] In the Lower 700 MHz Band, however, base stations are permitted to operate at power levels up to 50 kW ERP if they do not produce signals exceeding a power flux density (PFD) of 3 mW/m^2 on the ground within 1 kilometer of the station.[203]

89. In the *700 MHz Commercial Services Notice,* we sought comment on whether we should revise the power levels that commercial licensees in either the Lower 700 MHz Band and the Upper 700 MHz Commercial Services Band are permitted to employ.[204] In response, several commenters seek an increase in the power limit for 700 MHz Commercial Services Band base stations from 1 kW ERP to 2 kW ERP.[205] Some of these commenters specifically recommend raising the power limit for such 700 MHz licensees operating in rural areas,[206] and one such commenter suggests that any power increase could be accompanied by the Lower 700 MHz Band PFD requirement.[207] In addition, a number of

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[199] *See supra* Section III.A.2.a.

[200] *See* 47 C.F.R. § 27.13(b).

[201] 47 U.S.C. § 307(c)(1); *see also* 47 C.F.R. § 73.1020(a).

[202] *See* 47 C.F.R. §§ 27.50(b), (c). We note that under our rules, fixed stations may operate in the 700 MHz bands. Thus, the existing 1 kW ERP base station power limit and any other power limits referred to in this Order shall apply to fixed stations as well as base stations. We further note that 1 kW ERP is equivalent to 1640 W EIRP – the power limit permitted in the PCS and AWS bands.

[203] *See* 47 C.F.R. §§ 27.50(c), 27.55(b). Through the use of an appropriate PFD limit, a transmission from a 50 kW ERP base station can appear, to an adjacent band receiver operating in the vicinity of the base station, like a transmission from a 1 kW ERP base station operating without a PFD constraint.

[204] *See 700 MHz Commercial Services Notice*, 21 FCC Rcd at 9386-88.

[205] *See, e.g.,* DIRECTV Comments in WT Docket No. 06-150 at 13 (favoring a power increase in the Upper 700 MHz Band and asserting that in the 2008/2009 timeframe, "new or emerging technologies" will be available, which will allow 700 MHz licensees to employ power levels significantly greater than 1 kW ERP "without causing any interference to other spectrum users."). *See also* Aloha Partners Reply Comments in WT Docket No. 06-150 at 5.

[206] *See* Vermont Department of Public Service *et al* Comments in WT Docket No. 06-150 at 11 (favoring an increase in the Upper 700 MHz Band power limit in rural areas from 1 kW ERP to 2 kW ERP due to the "challenges" faced by rural providers in covering large geographic areas); *see also* AT&T Comments in WT Docket No. 06-150 at 12 (recommending a power limit increase in rural areas "similar to the higher power limits. . .now permitted in the cellular, PCS, and AWS services.").

[207] *See* Leap Wireless Comments in WT Docket No. 06-150 at 6-8 (proposing an increase in the power limit to 2 kW ERP for Upper 700 MHz Band base stations to "facilitate the deployment of robust CMRS services," and indicating that it would "not object" to a 3 mW/m^2 PFD requirement along with an increased power limit). Motorola suggests (continued….)

commenters contend that the Commission should employ a power spectral density (PSD) model for defining power limits in the 700 MHz Commercial Services Band.[208]

90. We also sought comment on whether we should continue to allow Lower 700 MHz Band licensees to operate base stations at power levels up to 50 kW ERP or whether this capability should be reduced for existing and/or future Lower 700 MHz Band licensees.[209] Most commenters addressing this issue oppose reducing the current 50 kW ERP capability in the Lower 700 MHz Band.[210] Some commenters particularly oppose any revision to this rule that might be applied to the already-auctioned portions of the Lower 700 MHz Band.[211] Cingular suggests that the Commission "consider" increasing the power capability in the Lower 700 MHz Band in rural areas to 100 kW ERP "to further promote and expedite service to those areas."[212] In contrast, MSTV recommends lowering the power limit out of concern over potential interference to broadcast operations,[213] and Sprint believes that high-site, 50 kW ERP transmissions in the Lower 700 MHz Band could cause interference to adjacent band, low-site, lower power operations.[214] Finally, Motorola requests that Lower 700 MHz Band licensees' capability to operate at 50 kW ERP be defined in terms of power spectral density.[215]

91. Discussion. We modify our power limit rules for the Lower 700 MHz Band and the Upper 700 MHz Commercial Services Band in a number of ways. First, we implement a PSD model for

(Continued from previous page)
that if we permit a higher power limit for Upper 700 MHz Band commercial stations, there could be the potential for interference to Public Safety operations, and therefore recommends that if an increased power limit is adopted the "aggregate total power from non-desired signals into [a Public Safety portable] receiver front-end should not exceed approximately -25 dBm." *See* Motorola Comments in WT Docket No. 06-150 at 11.

[208] *See* Motorola Comments in WT Docket No. 06-150 at 11 (requesting that the Commission limit the power of 700 MHz Band base stations to 1 kW/MHz ERP). *See also* Aloha Partners Comments in WT Docket No. 06-150 at 11, MilkyWay Comments in WT Docket No. 06-150 at 9, CTIA Reply Comments in WT Docket No. 06-150 at 8, and Cingular Reply Comments in WT Docket No. 06-150 at 15. The issue of employing a PSD model for defining power limits was also raised in the *Streamlining and Harmonization Further Notice.* A number of parties commenting in that proceeding favored the adoption of the PSD model. *See, e.g.,* Comments of CTIA in WT Docket No. 03-264 at 4-6.

[209] *See 700 MHz Commercial Services Notice*, 21 FCC Rcd at 9385-88 ¶ 90-98.

[210] *See* AT&T Reply Comments in WT Docket No. 06-150 at 11; Motorola Comments in WT Docket No. 06-150 at 12.

[211] *See* C&W Enterprises Comments in WT Docket No. 06-150 at 5 and Corr Wireless Comments in WT Docket No. 06-150 at 8-10. *See also* Qualcomm Comments in WT Docket No. 06-150 at 22-24 (indicating that any decrease in power limits for existing Lower Band licensees is "unwarranted" and would require Qualcomm to construct many additional base stations to implement its MediaFlo system).

[212] *See* Cingular Reply Comments in WT Docket No. 06-150 at 15 (stating that such a power increase would not "substantially increas[e] the potential for interference").

[213] *See* MSTV Reply Comments in WT Docket No. 06-150 at 5-7 (arguing that we should reduce the power capability for Lower Band licensees to some unspecified level during the transition – during which time "knowledge developed . . . will teach [us] steps that are necessary to prevent harmful interference" to broadcast operations – and then after the transition, retain that reduced power level capability for Channel 52 stations only"). In addition, MSTV requests that we reaffirm our decision announced in the Public Notice released prior to the 2002 Lower 700 MHz Band auction that 700 MHz licensees must afford interference protection to adjacent channel broadcast services, and that such services "have priority over any adjoining 700 MHz services that might interfere." *Id*. at 4.

[214] Sprint Comments in WT Docket No. 06-150 at 11-12. Sprint, however, does not propose a particular, reduced power level for the Lower Band to prevent such interference.

[215] *See* Motorola Comments in WT Docket No. 06-150 at 12 (proposing that Lower Band licensees be limited to a power level of 50 kW/6 MHz ERP).

defining power limits for base stations operating in the entire 700 MHz Commercial Services Band.[216] The current power limit rules do not specify a bandwidth over which a licensee's power is to be limited, and could be construed to mean that the power limit applies on a "per emission" basis. Because some licensees may only transmit one emission within their given bandwidth, while others using technologies with narrower emissions might employ multiple emissions over that bandwidth, construing the power limit to apply on a "per emission" basis could allow licensees employing multiple emissions to transmit more total energy in their authorized spectrum blocks than licensees with only one emission in their spectrum blocks. To better accommodate all technologies, we are clarifying that the maximum allowable power levels in the 700 MHz Commercial Services Band are to be defined on a "per megahertz of spectrum bandwidth" basis, rather than on a "per emission" basis. This clarification will enable higher power signals from wider band technologies, but will not result in a decrease in the total power currently allowed in the band from narrower band technologies. Given this clarification, we are also adopting additional measures to protect against any possible increased risk of interference, especially to 700 MHz public safety users.

92. More specifically, we will allow 700 MHz Commercial Services Band licensees employing bandwidths greater than 1 MHz to meet a base station power limit of 1 kW/MHz ERP (*i.e.,* no more than 1 kW ERP in any 1 MHz band segment). Licensees operating with bandwidths of less than one megahertz will, however, continue to be permitted to operate at power levels up to 1 kW ERP over their bandwidth. Thus, for example, a licensee transmitting a signal with a bandwidth of 5 MHz could employ a power level of 5 kW ERP over the 5 MHz bandwidth, with each 1 MHz band segment within the 5 MHz bandwidth being limited to 1 kW ERP; and a licensee transmitting a signal with a bandwidth of 200 kHz could employ a power level of 1 kW ERP over the 200 kHz bandwidth. This approach to defining power limits, as suggested by Motorola, and others in the context of the *Streamlining and Harmonization Further Notice*, will achieve a degree of technological neutrality by ensuring that all licensees regardless of technology choice have enough power to operate a viable service. This neutrality would not exist if all licensees, regardless of their operating bandwidth, were required to limit their base station power levels to 1 kW ERP per emission.[217]

93. In response to proposals by parties seeking greater power limits for rural area operations, we will permit power levels of up to 2 kW/MHz ERP in rural areas, and consistent with our decision above, we will allow rural licensees operating with bandwidths less than one megahertz to operate at power levels up to 2 kW ERP over their bandwidth. In implementing this decision, we define rural areas, consistent with the *Rural Report and Order,* as those counties in the U.S. having a population of fewer than 100 people per square mile, based on the most recently available population statistics from the Bureau of the Census.[218] As suggested by Vermont Department of Public Service *et al.*, increasing the permissible power in rural areas will enable 700 MHz Commercial Services Band licensees operating in such areas to more easily implement their systems; and as AT&T notes, increasing power levels in rural areas would be consistent with the recent Commission decision to permit rural carriers in the Cellular, AWS, and Broadband PCS services to operate at higher power levels.[219] We note that in the *Rural Report and Order*, where the same power increase was adopted, the Commission decided, as a "cautionary measure," to require carriers operating at higher power levels to coordinate with licensees operating within 75 miles of their base stations.[220] Consistent with this decision, we shall require any 700 MHz

[216] We are not, however, adopting the PSD model for defining power limits for control, mobile, or portable stations operating in the bands.

[217] *See* Motorola Comments in WT Docket No. 06-150 at 10-11.

[218] *See Rural Report and Order*, 19 FCC Rcd at 19128 ¶ 89; 47 C.F.R. § 27.50(d)(1).

[219] *See Rural Report and Order*, 19 FCC Rcd at 19127 ¶ 87, 19131 ¶ 95, 19133 ¶ 100.

[220] *See, e.g.*, *id.* at 19134 ¶ 101.

Commercial Services Band licensee seeking to operate a base station under our rules permitting power levels greater than 1 kW ERP in rural areas to coordinate in advance with all non-public safety 700 MHz licensees authorized to operate within 75 miles of the station and with all 700 MHz Regional Planning Committees that have jurisdiction within 75 miles of the station.

94. As noted above, licensees in the Lower 700 MHz Band are allowed to use up to 50 kW ERP if they do not produce signals exceeding a power flux density (PFD) of 3 mW/m^2 on the ground within 1 kilometer of the station. A number of commenters expressed views on the appropriateness of the current, maximum 50 kW ERP capability for Lower 700 MHz Band operations. Sprint, for example, contends that 50 kW ERP transmissions in the Lower 700 MHz Band could cause interference to adjacent band operations, and Verizon indicates that "high-powered operations could be potentially harmful to mobile systems" in the Lower 700 MHz Band.[221] Conversely, Qualcomm states that "there is no evidence to support the reduction in the existing 50 kW ERP power level for the Lower Band,"[222] and various incumbent Lower 700 MHz Band licensees express concern over the possibility that their 50 kW ERP power capabilities could be reduced."[223]

95. Considering these comments, we make certain modifications to the power limit rules in the Lower 700 MHz Band. Specifically, we will retain the ability of incumbent C and D Block licensees to employ power levels up to 50 kW ERP. In addition, because we believe that unpaired blocks are conducive to the provision of broadcast-type operations, we shall permit licensees operating in any unpaired block(s) in the Lower 700 MHz Band to operate at a power level of 50 kW ERP as well.[224] However, because we believe that paired blocks are generally more conducive to the provision of mobile services, we shall not extend to new licensees operating in any Lower 700 MHz Band paired blocks the ability to operate at 50 kW ERP. This action helps preserve the flexibility the Commission originally envisioned for the Lower 700 MHz Band, *i.e.*, the use of both broadcast and mobile services in the band, by providing an environment conducive to mobile systems in the paired blocks and an environment conducive to broadcast-type systems in the unpaired blocks. Current and future licensees nevertheless will have the flexibility to implement broadcast-type or mobile systems in any particular block. For example, a licensee may implement a broadcast-type system in a paired block, but rather than a high-power, high-site system, it would have to design a distributed broadcast system.

96. In reaching this decision, we conclude that it would not be appropriate to reduce the power limits of incumbent Lower 700 MHz Band licensees, who acquired their spectrum with the expectation that they would be able to employ 50 kW ERP transmissions in the band. Although we recognize concerns expressed by certain parties regarding the potential for adjacent band interference into the current unauctioned paired blocks (i.e., the current A and B Blocks) from high power emissions in adjacent incumbent and unauctioned unpaired blocks, we continue to believe that our out-of-band emission limits coupled with the 3 mW/m^2 PFD requirement will be effective in protecting unauctioned paired blocks from adjacent channel interference. We note, however, that the 50 kW ERP limit in the

[221] *See* Verizon *Ex Parte* letter of April 4, 2007 at 3.

[222] *See* Qualcomm Reply Comments in WT Docket No. 06-150 at 3.

[223] For example, C&W, a company that operates a system employing a single, high-powered, transmitter, indicates that if the power limit were reduced, it would have to add many more stations to cover the same area, at "great expense," and therefore "would have to discontinue the service it is providing. *See* C&W Comments in WT Docket No. 06-150 at 5. Similarly, Corr Wireless, which believes that with the 50 kW ERP power limit a licensee could provide "mobile TV and one-way data [services]" to small or medium-sized markets, considers the idea of reducing the power limit for existing Lower 700 MHz licensees a "gross breach of faith for licensees who relied on the specified power limits when applying for, bidding on, and paying for these licenses . . ." Corr Wireless Comments in WT Docket No. 06-150 at 8-9.

[224] *See infra* Section IV.B.1.a (proposing retention of the band plan for the existing Lower 700 MHz Band, which includes an unpaired E Block).

Lower 700 MHz Band was based on a traditional broadcast emission, which consists of a single emission within the licensed bandwidth. The Commission never intended that emissions within a single block in the Lower 700 MHz Band exceed 50 kW ERP. Accordingly, we clarify that the 50 kW ERP limit for the current C and D Blocks, and any additional unpaired block(s) in the Lower 700 MHz Band, is a cap on the average total power of all emissions within the full authorized spectrum of the blocks. For example, a single incumbent C or D Block base station with an emission bandwidth of 1 megahertz could transmit with the full 50 kW ERP, but no other emissions would be permitted in the remaining 5 megahertz of the block. This limit would also apply to the cumulative emissions of both licensees if a 6 megahertz incumbent or unauctioned unpaired block is disaggregated.

97. In implementing this PSD approach to the power limits in both the Lower 700 MHz Band and the Upper 700 MHz Commercial Services Band, we continue to remain concerned that transmissions at higher power levels could potentially cause interference to adjacent channel operations. To mitigate the potential for harmful interference to adjacent channel operations, we require the following. For Lower 700 MHz Band licensees, if operating with a bandwidth of 1 megahertz or less and a transmitting power greater than 1 kW ERP non-rural or 2 kW ERP rural, or if operating with a bandwidth of more than 1 megahertz and a PSD greater than 1 kW/MHz ERP non-rural or 2 kW/MHz ERP rural, then that licensee must comply with the 3 mW/m^2 PFD limit.[225] Thus, for example, a non-rural licensee transmitting an 8 kW ERP signal in a 5-megahertz bandwidth or a rural licensee transmitting a 4 kW ERP signal in a 1.25 MHz bandwidth would have to satisfy the 3 mW/m^2 PFD limit. However, a licensee transmitting an 800 watt ERP signal in a 200-kHz bandwidth or a 4 kW ERP signal in a 5-megahertz bandwidth, or a rural licensee transmitting an 8 kW ERP signal in a 5-megahertz bandwidth, would not have to meet the PFD limit. Because we wish to remain especially vigilant regarding the potential for interference to public safety operations, we impose the following additional requirement on Commercial Services licensees operating in the Upper 700 MHz Band. Specifically, all Upper 700 MHz Commercial Services Band licensees, both rural and non-rural, transmitting signals at a power levels greater than 1 kW ERP, irrespective of bandwidth, must satisfy the 3 mW/m^2 PFD limit.[226] Thus, for example, an Upper 700 MHz Commercial Services Band licensee transmitting a 4 kW ERP signal in a 5-megahertz bandwidth would have to meet the PFD limit.

98. Leap asks that we adopt a power limit of 2 kW ERP for Upper 700 MHz Commercial Services Band base stations and indicates that it would not object to applying a 3 mW/m^2 PFD limit to such a power limit. To the extent that we are permitting Upper 700 MHz Commercial Services Band licensees to employ 2 kW ERP,[227] and requiring the application of our 3 mW/m^2 PFD in such instances, we are granting Leap's request. DIRECTV/EchoStar requests that we significantly increase the power limit in the Upper 700 MHz Commercial Services Band. However, DIRECTV/EchoStar proposes no specific, higher power limit for the band, and provides no information about the "new and emerging technologies" it believes would permit such higher power levels without causing interference to other users.[228] Thus, without specific information regarding DIRECTV/EchoStar's request for an increased power limit for the Upper 700 MHz Commercial Services Band, we must deny DIRECTV/EchoStar's request.

[225] We will also require such licensees to meet the same type of notification requirements that currently apply to Lower 700 MHz Band licensees who are required to meet our PFD limit. *See* Sections 27.50(c), as amended.

[226] We will require such licensees to meet the same type of notification requirement that we are now requiring of Lower 700 MHz Band licensees. *See* Section 27.50(b), as amended.

[227] We permit Upper 700 MHz Band licensees to transmit at 2 kW ERP when operating over bandwidths of 2 megahertz or more.

[228] *See* DIRECTV/EchoStar comments in WT Docket No. 06-150 at 13 (indicating that as such technologies develop, it will supplement the record with specific power limit recommendations).

99. Motorola is concerned that possible increases in Upper 700 MHz Commercial Services Band power levels could result in interference to 700 MHz public safety operations. Motorola thus suggests that, if we permit higher power levels in the band, we require that the "aggregate" power from non-desired signals received by portable public safety devices situated within 1 km of a high-powered commercial base station be limited to -25 dBm.[229] We decline to adopt Motorola's proposal for two reasons. First, Motorola does not provide the technical basis for its proposed -25 dBm limitation (*i.e.,* how it would serve to protect public safety devices).[230] Second, any rule that would require new 700 MHz Commercial Services Band licensees to meet some measured signal level in all present and future public safety devices operating in the vicinity of their base stations could be burdensome and create uncertainty for such licensees as they develop and implement their networks. Our requirement that licensees meet a PFD limit at specified locations near their base stations when operating at higher power levels is less burdensome and will create more certainty for new licensees as they implement their systems.

100. We reject Cingular's request to permit a power capability of 100 kW ERP for Lower 700 MHz Band base stations operating in rural areas because we are concerned that such a power level could result in interference to adjacent channel, Lower 700 MHz Band operations. When the Commission adopted rules for the Lower 700 MHz Band to permit a 50 kW ERP power level, it analyzed the potential for interference to adjacent channel operations if power levels significantly greater than 1 kW ERP were permitted.[231] In that analysis, the Commission concluded that interference to adjacent channel base station receivers from transmitting Lower 700 MHz Band base stations would not be expected to occur when such stations are operating at power levels up to 50 kW ERP.[232] This analysis indicates, however, that if Lower 700 MHz Band base stations operated at power levels as high as 100 kW ERP, then the possibility of interference to adjacent band operations would increase.[233] In addition, Cingular does not explain why a 50 kW ERP power level would be inadequate, or why a power level of 100 kW ERP power level would be necessary to provide service to rural areas. We therefore reject Cingular's request for a power capability of 100 kW ERP for Lower 700 MHz Band operations in rural areas.

101. With regard to the concerns raised by MSTV about the use of 50 kW ERP power levels in the Lower 700 MHz Band, we reaffirm the Commission's long-standing position that broadcasters must be afforded adequate interference protection from 700 MHz licensees. When the Commission established its rules for these licensees, it ensured that appropriate protections would be provided to broadcast operations.[234] Thus, all 700 MHz Band licensees are required to comply with these rules during the DTV transition, and all licensees operating on Channel 52 will be required to continue to meet these requirements after the transition as well.

102. We will not, however, reduce the power capabilities of all Lower 700 MHz Band licensees either during or after the DTV transition as MSTV requests. Under Section 27.60 of our rules, 700 MHz licensees must limit their stations' transmissions to specified field strength levels at co-channel and adjacent channel broadcasters' Grade B contours, and under Section 27.53 of our rules, 700 MHz

[229] *See* Motorola Comments in WT Docket No. 06-150 at 11.

[230] We received no comments from the Public Safety community regarding the Motorola proposal.

[231] *See Lower 700 MHz Band Report and Order,* 17 FCC Rcd 1121, Appendix D.

[232] The Commission indicated that desired-to-undesired (D/U) ratios of -42 dB or better would likely ensure non-interference to 700 MHz base station receivers. As shown in Table 1 of Appendix D, which indicates D/U ratios for various conditions, for base stations transmitting at 50 kW ERP, there are no conditions where D/U ratios exceed -42 dB and only a few where D/U ratios approach -42 dB. *Id.*

[233] As indicated in Table 1 of Appendix D, for base stations transmitting at power levels as high as 100 kW ERP, there are a number of conditions where D/U ratios would approach -42 dB. *Id.*

[234] *See, e.g.,* 47 C.F.R. § 27.60 ("TV/DTV interference protection criteria"); 47 C.F.R. § 27.53 ("Emission limits").

licensees must meet prescribed out-of-band emission limits with respect to adjacent band operations. MSTV has not provided any reasoning as to why these requirements will not be met if and when base stations operate at high power levels. Rather, MSTV bases its request for a power reduction on a general, but speculative, concern that higher power levels could cause interference to television operations in the band. Given the absence of any existing circumstances of interference to broadcast operations or any technical rationale for why such interference would occur, we find that it is not necessary to prevent all Lower 700 MHz Band licensees from operating at 50 kW ERP power levels, either during or after the transition. We note, however, that, while we are not granting MSTV's request to reduce the power capabilities of all Lower 700 MHz Band licensees prior to the end of the transition, we do, through our decision above to limit power levels in the A Block to 1 kW/MHz ERP, grant MSTV's request to reduce the power level of licensees operating on Channel 52.

(iv) Power Limit Issues in WT Docket No. 03-264

103. Background. In the *Streamlining and Harmonization Further Notice*, the Commission sought comment on a request by CTIA to redefine how power limits are measured in the PCS and AWS bands.[235] CTIA asked that the Commission modify its power limit rules so that: (1) the power limit for the bands would be increased from 1640 watts EIRP to 3280 watts EIRP; (2) the power in the PCS and AWS bands would be measured using PSD (*i.e.*, the power limit in those bands, using PSD, would be 3280 watts EIRP/MHz); and 3) power would be defined by the measurement of "average," rather than "peak" power. In the *Streamlining and Harmonization Further Notice*, the Commission sought comment on the CTIA proposals in the context of other bands, including the 700 MHz Band. We therefore will address CTIA's proposals, as they would apply to the 700 MHz Band.

104. Discussion. As discussed above, we will employ PSD for defining power limits in the 700 MHz Band. We have thus granted the second of CTIA's requests as it applies to the 700 MHz Commercial Services Bands. However, we shall not apply to the 700 MHz Band CTIA's proposal to double power limits in the PCS and AWS-1 bands – *i.e.,* a power increase that would apply in both rural and non-rural areas and would not be accompanied by a PFD limit. CTIA provides no justification for permitting an unrestricted doubling of power levels for the 700 MHz Commercial Services Bands, and we find no basis for adopting such limits for the band. Instead, as discussed above, we are adopting rules for 700 MHz Band licensees that will allow for a power limit of 1 kW/MHz ERP in non-rural areas and 2 kW/MHz ERP in rural areas.

105. We do, however, find merit in extending to the 700 MHz Commercial Services Band CTIA's proposal to use "average," rather than "peak" power in measuring power levels. Although the use of "average" power will effectively result in an increase in 700 MHz Band power levels for non-constant envelope technologies, such as CDMA and WCDMA, the "average" measurement approach is a more accurate measure of the interference potential for these technologies. We find that any effective increase in power that would result through the use of an "average" measurement approach will be modest, and in any event will be outweighed by the benefit of measuring today's technologies using a more realistic and appropriate technique.

106. For purposes of clarifying the use of the "average power" measurement technique, we make the following determinations. First, we conclude that the technique shall be made during a period of continuous transmission and be based on a measurement using a 1 MHz resolution bandwidth.[236] Second, we shall restrict the peak-to-average ("PAR") ratio of the radiated signal to 13 dB. Limiting the

[235] Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services, WT Docket No. 03-264, *Report and Order and Further Notice of Proposed Rulemaking,* 20 FCC Rcd 13900 (2005) (*Streamlining and Harmonization Further Notice)*.

[236] *See* Letter from Paul W. Garnett, CTIA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 03-264 (filed Feb. 6, 2007) at 2.

PAR to 13 dB strikes a balance between enabling licensees to use modulation schemes with high PARs (such as OFDM) and protecting other licensees from high PAR transmissions. Parties seeking to employ the "average power" measurement technique should consult with the FCC Laboratory for guidance on the appropriate averaging method for the particular technology they plan to use.

(v) Other Technical Issues

107. In response to the technical issues discussed in the *700 MHz Commercial Services Notice*, commenters raise two additional matters: (1) the appropriateness of the current out-of-band emission ("OOBE") limits for Upper 700 MHz Commercial Services Band base stations; and (2) the potential for interference to 700 MHz public safety operations due to intermodulation ("IM") products.

108. Background. Sprint raises concerns about the potential for IM and OOBE interference to 700 MHz public safety operations and believes that we must prevent these types of interference from taking place.[237] With regard to IM interference, Sprint observes that signals from C and D block transmitters could potentially combine and form interference-causing IM products within the public safety base and mobile receive bands.[238] With regard to OOBE interference, Sprint argues that the existing 76 + 10log P OOBE limit[239] for Upper 700 MHz Commercial Services Band base stations is insufficient to protect public safety operations.[240] In response, Leap states that if the Commission were to tighten the existing OOBE limit, the Upper 700 MHz Commercial Services Band "could be rendered effectively unusable."[241] Leap suggests, alternatively, that we *decrease* the OOBE limit, to 53 + 10log P. In making this recommendation, Leap contends that the existing OOBE limit "will impose added cost to 700 MHz base station equipment."[242]

109. Access Spectrum *et al.* suggests that our current OOBE limit, which was designed to protect 700 MHz public safety narrowband channels, would not be needed to protect possible 700 MHz public safety broadband operations. It therefore asks that we consider adoption of the more modest OOBE limit that we currently employ to protect 700 MHz Commercial Services Band broadband systems,[243] to protect potential 700 MHz public safety broadband operations.[244] Finally, Motorola contends that regardless of what changes we make to our rules for the Upper 700 MHz Commercial

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[237] *See* Sprint Comments in WT Docket No. 06-150 at iii. On the other hand, CTIA argues that we should not reduce our 700 MHz Band base station power limits, stating that the "technical merits of [700 MHz Band] power limits were vetted in earlier proceedings and adopted consistent with the Commission's objective in the broadband PCS and AWS-1 bands of providing service flexibility while protecting adjacent channel licensees from interferences." CTIA Comments in WT Docket No. 06-150 at 20.

[238] *See* Sprint Comments in WT Docket No. 06-150 at n.8.

[239] *See* 47 C.R.F. § 27.53(c)(3).

[240] *See* Sprint Comments in WT Docket No. 06-150 at n.10. Sprint does not propose a particular OOBE limit to address its concern.

[241] Leap believes that those parties advocating the need for more stringent interference protection for public safety users "must be required to provide evidence of a problem" and asserts that "to date the record contains only speculative conclusions." Leap further believes that the technical limits proposed by Sprint to address its interference concerns "would severely limit the range of services offered" in the Upper Band. Leap Reply Comments in WT Docket No. 06-150 at 3-4.

[242] *See* Leap Comments in WT Docket No. 06-150 at 9.

[243] *See* 47 C.F.R. §§ 27.53(c)(1)-(2).

[244] *See* Access Spectrum *et al.* Comments in WT Docket No. 06-150 at 33-34 and Appendix B at 13-14. Public safety broadband operations would be permitted under various, proposed revisions to the 700 MHz Public Safety Band presented in the 700 MHz Public Safety and 700 MHz Guard Bands proceedings.

Services Band, the current out-of-band emission requirements designed to protect 700 MHz public safety users "must be maintained."[245]

110. Discussion. We will retain the existing OOBE limits for commercial base stations operating in the Upper 700 MHz Commercial Services Band because we find these restrictions provide sufficient and appropriate protection to 700 MHz public safety operations. We also decline to impose any technical restrictions on Upper 700 MHz Commercial Services Band licensees to address potential IM interference to 700 MHz public safety operations. We will, however, require Upper 700 MHz Commercial Services Band licensees and 700 MHz public safety entities, upon request from the other, to exchange information about their stations and systems. We are adopting this requirement in order to limit the potential for IM interference to 700 MHz public safety mobile and portable devices from the transmissions of Upper 700 MHz Commercial Service Band base stations.

111. With regard to Sprint's argument for the need for increased OOBE limits, Sprint's conclusion that our 76 +10 log P OOBE limit will result in interference to 700 MHz public safety operations is based on the assumption of a 65 dB site isolation figure in analyzing potential interference between commercial base stations and public safety mobile/portable receivers.[246] However, the Commission rejected this same premise in deciding not to adopt stricter OOBE limits in the *Upper 700 MHz Band Third MO&O*. In that proceeding NPSTC sought an increase in the OOBE limit based on the assertion by TIA[247] that the appropriate site isolation figure in the CMRS system environment was 65 dB.[248] In response the Commission stated that "short of a decision to protect all public safety systems with measures directed at worst-case conditions (*e.g.*, interference that might occur only at certain close-in distances from an antenna), it is "unnecessary . . .to revisit the current 76 + 10log P standard."[249]

112. In the *800 MHz Report and Order*, the Commission decided for similar reasons to not adopt stricter OOBE limits to protect 800 MHz public safety operations.[250] The Commission stated, as its rationale for not increasing the existing OOBE limit for the 800 MHz band, that the additional filtering needed to achieve proposed OOBE standards "would add cost and complexity – but no benefit – to those cells in a system in which, because of their location, or otherwise, unacceptable OOBE interference would not occur" and the Commission was therefore unwilling to "impose stronger OOBE limits on every cell of every system in the country; particularly if only a handful of cells in a system might require them."[251]

113. We continue to believe that any change to the OOBE limit required for commercial Upper 700 MHz Commercial Services Band base stations is unsupported. We also note that no public safety entities expressed concern in this proceeding about the adequacy of commercial Upper Band

[245] *See* Motorola Comments in WT Docket No. 06-150 at 10.

[246] The OOBE limit describes the degree to which out-of-band energy is initially reduced at a transmitter. Site isolation, in this instance, is a measure of the degree to which a signal is attenuated as it travels away from a transmitter towards an out-of-band receiver. Thus, an OOBE limit, along with an appropriate site isolation figure, determine how much out-of-band energy, and thus how much interference, is absorbed by a receiver.

[247] TIA provided the technical analysis in support of NPSTC's proposal.

[248] *See* In the Matter of Petitions for Reconsideration of the Second Memorandum Opinion and Order, Service Rules for the 746-764 and 776-794 MHz Spectrum bands and Revisions to Part 27 of the Commission's Rules, *Third Memorandum Opinion and Order*, 17 FCC Rcd 13985, 13992 ¶ 21 (*Third 700 MHz MO&O*).

[249] *Id.* at 13993 ¶ 22. The Commission also noted that TIA's proposed increased OOBE limit for Upper 700 MHz Band base stations "would dramatically compromise the usefulness of the upper 700 MHz commercial spectrum blocks" and therefore concluded that TIA's presentation did not "justify the establishment of a stronger, uniform OOBE standard for commercial transmitters." *Id.* at 13993-94 ¶ 23.

[250] *See 800 MHz Report and Order*, 19 FCC Rcd at 15028-29 ¶ 104.

[251] *Id.* at 14969, 15028 ¶ 104.

OOBE limits in protecting public safety mobile receivers from interference. Further, under the provisions of Section 27.53(m) of the Commission's rules, when harmful interference due to out-of-band emissions occurs in any Part 27 service, "the Commission may, at its discretion," require greater out-of-band emission limits than specified for that service. Thus, if harmful OOBE interference occurred in the 700 MHz Public Safety Band from an Upper 700 MHz Commercial Services base station transmission, there would be a mechanism in place to address the problem. For these reasons, and consistent with our previous analyses and decisions with regard to OOBE limits in the 700 and 800 MHz bands, we decline to adopt any increase to our existing OOBE limit for Upper 700 Commercial Services Band base stations.

114. We also disagree with Leap's argument that the Commission should reduce the current OOBE limit to 53 + 10log P. Leap asserts that the existing OOBE limit of 76 + 10log P will impose added costs to 700 MHz base station equipment, but Leap does not indicate that such additional costs would place any significant financial burden to Upper 700 MHz Commercial Services Band licensees. Leap also states that the use of the lower OOBE limit would provide fair and reasonable protection to public safety users, but provides no technical analysis in support of this assertion.[252] We therefore decline to adopt Leap's proposal for a reduced OOBE limit for Upper 700 MHz Commercial Services Band operations.

115. In addition, we do not address Access Spectrum *et al.*'s proposal that we revise the OOBE limits to make them consistent with the way licensees operating in 700 MHz Commercial Services Band broadband blocks protect one another. Because key premises of this proposal – whether to redesignate the wideband Public Safety spectrum to broadband use and whether to consolidate that broadband spectrum at the bottom of the Public Safety allocation – are subjects of the Further Notice, its consideration in this Report and Order is premature. We are seeking further comment on the issue in the Further Notice.

116. With regard to Sprint's concern about IM interference, Sprint correctly notes that signals from the C Block and D Block base stations could combine to form unwanted IM products within the 12-megahertz public safety mobile receive band in the 700 MHz Band, and that such products potentially could cause interference to public safety mobile and portable receivers. The issue of IM interference in the Upper 700 MHz Commercial Services Band was initially raised in the *Third 700 MHz Memorandum Opinion and Order*. In that proceeding, TIA suggested that, to address IM interference, the Commission adopt a requirement, which would have effectively limited the transmissions of commercial base stations to 5 watts ERP.[253] The Commission concluded that requiring base stations to operate at such a low power level "could dramatically compromise the usefulness of the Upper 700 MHz band commercial blocks" and thus declined to adopt any technical limitations to address IM interference.[254] The Commission addressed the issue of IM interference in the *800 MHz Report and Order* as well, where it acknowledged IM as a potential source of interference to public safety operations in the 800 MHz band.[255] In that proceeding, the Commission once again declined to adopt specific technical measures to address IM

[252] *See* Leap Comments in WT Docket No. 06-150 at 7-9.

[253] Specifically, TIA suggested that the Commission adopt a requirement to limit power levels produced by commercial base stations to no greater than -45 dBm on the ground within 400 meters of the station. The Commission determined that to meet this limitation, a commercial base station would not likely be able to transmit at a power level greater than 5 watts ERP. *See Third 700 MHz MO&O*, 17 FCC Rcd at 13995 ¶ 28.

[254] *Id*. Sprint asserts that a similarly low power level would be needed to ensure the absence of IM interference in the Upper 700 MHz Band, but acknowledges that imposing such a limit on base stations "would not allow any cost-effective deployment of infrastructure, particularly if the operator sought to provide in-building service." Sprint Comments at n. 20.

[255] *800 MHz Report and Order*, 19 FCC Rcd at 15023 ¶ 91.

interference.[256] Rather, it adopted a series of requirements, which mandated that commercial licensees work with one another, as well as with public safety entities, to eliminate any IM interference that might occur to public safety operations.[257]

117. Although we continue to believe that it is not necessary to impose strict technical measures on Upper 700 MHz Commercial Services Band licensees to protect public safety operations from IM interference, we recognize that due to the spectral relationship between the Blocks C and D in the Upper 700 MHz Commercial Services Band and the 700 MHz Public Safety Band, IM interference to public safety mobile and portable devices could potentially occur if relatively low base station power levels are not employed.[258] We therefore take additional steps to address potential IM interference to public safety operations in the 700 MHz Band.

118. Specifically, as we did with respect to 800 MHz ESMR and Cellular licensees,[259] we will require Upper 700 MHz Commercial Services Band licensees, upon request from a 700 MHz public safety entity, to provide to that entity information about the location and parameters of any stations they plan to activate in the public safety entity's area of operation.[260] We will also require, as we did in Section 90.675, public safety licensees to provide, upon request of an Upper 700 MHz Commercial Services Band licensee, the operating parameters of their radio systems.[261] As indicated in the *800 MHz*

[256] The Commission stated that "rather than impose stringent, across-the-board emission limits at this time, [it is] adopting rules that require ESMR and cellular telephone licensees to act only when and where it is evident that unacceptable interference is or will be caused to non-cellular 800 MHz systems, thereby affording such licensees a high degree of technical flexibility and minimizing the cost of interference avoidance." *800 MHz Report and Order*, 19 FCC Rcd at 15040 ¶ 131.

[257] *See id*. at 15041 ¶ 129 (the Commission decided that "in lieu of adopting what could be draconian rules, [it is] affording ESMR and cellular telephone licensees the discretion to make any necessary changes to their own systems—or changes to non-cellular systems affected by unacceptable interference—as may be necessary to eliminate unacceptable interference"). In implementing this decision the Commission adopted Section 90.672 ("Unacceptable interference to non-cellular 800 MHz licensees from ESMR or Part 22 Cellular Radiotelephone systems"), Section 90.673 ("Obligations to abate unacceptable interference"), Section 90.674 ("Interference resolution procedures before, during, and after band reconfiguration"), and Section 90.675 ("Information Exchange").

[258] For example, a D Block transmission at 760 MHz, when combined with a C Block transmission at 750 MHz, will, in accordance with the $2F_1$-F_2 formula for the calculation of 3rd order intermodulation, create an IM product at 770 MHz, which is within the 764-776 MHz Public Safety Band.

[259] *See, e.g.,* Section 90.675.

[260] As per Section 90.675, this would include information about the 700 MHz station's location, effective radiated power, antenna height, and channels available for use. Also, as per Section 90.675, Public Safety licensees will not be afforded the right to accept or reject the activation of a proposed 700 MHz station or to unilaterally require changes to the station's operating parameters. We note as well that 700 MHz licensees may regard their operating parameters as proprietary and if so, we encourage such licensees to use non-disclosure agreement whereby third parties will not be given access to such information. Failing that, the affected parties could seek a protective order from the Commission. *See* Digital Output Protection Technology and Recording Method Certifications, *Order*, MM Docket 04-68, DA 04-716 (rel. March 17, 2004). *See also* 47 C.F.R §§ 0.457, 0.459. We also encourage, but do not require, that such matters be submitted to arbitration, mediation, or other alternative dispute resolution mechanisms.

[261] Public safety licensees will also be required to provide information about any technical changes they plan to make to their systems.

Report and Order, these actions can both help prevent potential interference from occurring and help identify possible sources of interference more rapidly, if interference were to occur.[262]

119. Finally, if interference to public safety systems does take place, we will expect 700 MHz Commercial Services Band licensees to take whatever actions are necessary to mitigate the interference (*e.g.,* reducing out-of-band emissions, reducing power levels, changing operating frequencies, *etc*.). As operations begin in the Upper 700 MHz Commercial Services Band, we will be keenly interested in any circumstances of interference to public safety operations that are not appropriately addressed by commercial entities, and if we believe that further actions are necessary to ensure that such circumstances do not take place, we shall take such actions.

(vi) 911/E911 Requirements

120. Background. In the *700 MHz Commercial Services Notice*, we sought comment on whether § 20.18 of the Commission's rules, which imposes 911 and Enhanced 911 (E911) obligations on certain enumerated wireless services, should be extended to services provided in the 700 MHz Commercial Services Band, to any Part 27 service, or to all similar wireless services, to the extent that they meet certain criteria established in the *E911 Scope Order*.[263] The "basic 911" requirement of § 20.18 requires providers of specified wireless voice services to transmit all wireless 911 calls made by their subscribers without respect to their call validation process to the appropriate Public Safety Answering Point (PSAP) or designated emergency authority.[264] Under the E911 requirement, providers are ultimately required (*i.e.*, during "Phase II") to automatically provide the PSAP or designated authority with the location of the 911 caller by longitude and latitude (Automatic Location Identification or ALI) within a specified level of accuracy.[265] Licensees can provide ALI information by deploying technology in their networks for locating subscribers (a network-based solution),[266] or by including Global Positioning System (GPS) or other location technology in subscribers' handsets (a handset-based solution).[267]

121. Currently, the 911/E911 obligations established in § 20.18 apply to the following services: Broadband PCS under Part 24, Cellular Radio Telephone Service under Part 22, Geographic Area and Incumbent Wide Area Specialized Mobile Radio (SMR) Service in the 800 MHz and 900 MHz Bands under Part 90, and those entities that offer these voice services by purchasing airtime or capacity wholesale from facilities-based providers.[268] These obligations are further restricted to apply only insofar as the covered service providers offer "real-time, two way switched voice service that is interconnected

[262] *See 800 MHz Report and Order*, 19 FCC Rcd at 15038 ¶ 125 ("if the characteristics of a proposed new cell are known in advance, it is possible to analyze the cell's potential for interference and make any necessary revisions to cell parameters before the cell is activated"), 15039 ¶ 127.

[263] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9390 ¶¶ 104-06.

[264] 47 C.F.R. § 20.18(b).

[265] 47 C.F.R. § 20.18(e)-(h).

[266] Network-based location solutions employ equipment and/or software added to wireless carrier networks to calculate and report the location of handsets dialing 911. These solutions do not require changes or special hardware or software in wireless handsets. *See* 47 C.F.R. § 20.3 ("*Network-based Location Technology*").

[267] Handset-based location solutions employ special location-determining hardware and/or software in wireless handsets, often in addition to network upgrades, to identify and report the location of handsets calling 911. *See* 47 C.F.R. § 20.3 ("*Location-capable Handsets*").

[268] 47 C.F.R. § 20.18(a).

with the public switched network and utilizes an in-network switching facility which enables the provider to reuse frequencies and accomplish seamless hand-off of subscriber calls."[269]

122. The Commission made the majority of these application decisions in the 1996 *E911 Report and Order*.[270] The Commission determined in that *Order* that 911/E911 should be applicable to real-time, two-way, interconnected voice services provided by Cellular Radio Telephone Service carriers and broadband PCS carriers because customers of those public telephone services "clearly expect access to 911 and E911," given that they often cited "safety and security" as their main reason for purchasing a mobile phone.[271] Geographic area and incumbent wide area SMR providers licensed in the 800 MHz and 900 MHz bands were made subject to the rule because these carriers showed "significant potential to offer near-term direct competition to cellular and broadband PCS carriers."[272]

123. The Commission declined, however, to extend 911/E911 obligations to a number of other services. For example, the Commission decided that local SMR voice service, even if interconnected, would not be governed by 911/E911 requirements as local SMR providers "offer[ed] mainly dispatch services to specialized customers in a more localized, non-cellular system configuration . . . ."[273] The Commission also determined that, while it expected that CMRS voice Mobile Satellite Service (MSS) carriers would eventually be required to provide access to emergency services, the Commission would not impose such requirements at that time because it might "impede the development of the service in ways that might reduce its ability to meet public safety needs."[274] Notwithstanding these determinations, the Commission affirmed that "the public interest will ordinarily require that all CMRS real time two-way voice communications services provide reasonable and effective access to emergency services."[275]

124. In the *E911 Scope Order* released in 2003, the Commission derived four factors from its earlier application decisions to inform its analysis of whether other services not necessarily within the scope of § 20.18(a) should be subject to the E911 rules.[276] Specifically, the Commission determined that it would consider whether (1) the service offers real-time, two-way voice service that is interconnected to the public switched network on either a stand-alone basis or packaged with other telecommunications services; (2) the customers using the service or device have a reasonable expectation of access to 911 and E911 services; (3) the service competes with traditional CMRS or wireline local exchange service; and (4) it is technically and operationally feasible for the service or device to support E911.[277] The Commission also clarified, however, that while the four criteria would be "extremely useful in ensuring technological and competitive neutrality," these criteria were not the exclusive considerations. Instead, the Commission might also "consider other factors to inform [its] decision," including other factors that might mitigate the need to impose a requirement on a particular service.[278] Applying this analysis, the

[269] *See* Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, *Report and Order and Further Notice of Proposed Rulemaking*, 11 FCC Rcd 18676, 18716 ¶ 81 (1996) (*E911 Report and Order*); 47 C.F.R. § 20.18(a).

[270] *See E911 Report and Order.*

[271] *See E911 Report and Order*, 11 FCC Rcd at 18716 ¶¶ 80-81; 47 C.F.R. § 20.18(a).

[272] *E911 Report and Order*, 11 FCC Rcd at 18716 ¶ 81; 47 C.F.R. § 20.18(a).

[273] *E911 Report and Order*, 11 FCC Rcd at 18716-17 ¶ 81.

[274] *Id.* at 18718 ¶ 83.

[275] *Id.*

[276] *See* Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket 94-102, IB Docket No. 99-67, *Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 25340, 25347 ¶ 18 (2003) ("*E911 Scope Order*").

[277] *Id.*

[278] *Id.* at 25341 ¶ 2, 25347 ¶ 19.

Commission determined, among other things, that (1) MSS should now provide a modified form of basic 911 service, but would not, at that time, be required to provide E911 service; and (2) that wireless resellers and pre-paid calling service providers would be required to comply with 911/E911 requirements under § 20.18 to the extent that the underlying facilities-based provider offers access to 911 service.[279]

125. *700 MHz Commercial Services Notice.* In the *700 MHz Commercial Services Notice*, we sought comment on whether § 20.18 should be amended to apply the 911/E911 requirements to services in the 700 MHz Commercial Services Band that meet the *E911 Scope Order* criteria, to all services using bands subject to Part 27 that meet that criteria, or to all similar wireless services meeting that criteria.[280] We tentatively concluded that services provided using both auctioned and previously unauctioned spectrum in the 700 MHz Commercial Services Band and that meet the criteria established in the *E911 Scope Order* should be subject to the 911/E911 requirements.[281] We also tentatively concluded that services using spectrum subject to Part 27, such as the AWS-1 bands,[282] which meet the same criteria noted above should likewise be subject to the 911/E911 requirements.[283] We sought comment but made no tentative conclusion with regard to whether § 20.18 should be amended to apply to all similar wireless services that meet the *E911 Scope Order* criteria.[284]

126. Almost all of the commenters addressing the issue support application of the 911/E911 requirements to services in the 700 MHz Commercial Services Band to the extent that those services are similar to the services already subject to the requirements, with support coming from a range of interests including large, medium-sized, and rural carriers, manufacturers, and public interest groups.[285] CTIA also supports application of 911/E911 requirements to Part 27 services more broadly,[286] while NENA supports the extension of the 911/E911 requirements to wireless services that meet the *E911 Scope Order* criteria generally.[287] Many commenters note the critical public safety benefits of E911,[288] and also argue that similar services should be subject to the same requirements.[289] Several commenters also state, however, that E911 should not apply to 700 MHz Commercial Services Band services to a greater extent than it

[279] *Id.*

[280] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9390 ¶¶ 104-05.

[281] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9389 ¶ 100, 9390 ¶ 104.

[282] As noted above, AWS-1 refers to the 1710-1755 MHz and 2110-2155 MHz bands, which the Commission determined would be licensed under its Part 27 rules.

[283] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9390 ¶ 105.

[284] *Id.* at 9390 ¶ 106.

[285] *See* Aloha Comments in WT Docket No. 06-150 at 12; AT&T Comments in WT Docket No. 06-150 at 16; Blooston Comments in WT Docket No. 06-150 at 8; Cingular Comments in WT Docket No. 06-150 at 15; Dobson Comments in WT Docket No. 06-150 at 11; Leap Comments in WT Docket No. 06-150 at 11; NENA Comments in WT Docket No. 06-150 at 1-2; Qualcomm Comments in WT Docket No. 06-150 at 24 (supporting application of E911 to both auctioned and previously unauctioned spectrum); U.S. Cellular Comments at 18 (same); TIA Comments in WT Docket No. 94-102 at 9-10; T-Mobile Reply at 6.

[286] *See* CTIA Comments in WT Docket No. 06-150 at 21.

[287] *See* NENA Comments in WT Docket No. 06-150 at 2.

[288] *See*, *e.g.*, CTIA Comments in WT Docket No. 06-150 at 21; Dobson Comments in WT Docket No. 06-150 at 11; TIA Comments in WT Docket No. 06-150 at 9; U.S. Cellular Comments in WT Docket No. 06-150 at 19.

[289] *See* Aloha Comments in WT Docket No. 06-150 at 12; CTIA Comments in WT Docket No. 06-150 at 21; Leap Comments in WT Docket No. 06-150 at 11; U.S. Cellular Comments in WT Docket No. 06-150 at 19; T-Mobile Reply Comments in WT Docket No. 06-150 at 6.

does to services currently subject to the requirements.[290] TIA cautions against application of E911 to all services in the 700 MHz Commercial Services Band because some services might not meet the four *E911 Scope Order* criteria.[291]

127. The Rural Telecommunications Group (RTG) opposes any extension of 911/E911 requirements to the 700 MHz Commercial Services Band at this time.[292] RTG argues that imposition of 911/E911 in this band is "premature" because "[i]t is not yet clear what services will be provided or what technology will be used to provide them."[293] RTG argues that "[t]he technologies chosen to deploy 700 MHz may or may not be able to comply" with the 911/E911 requirements, and in particular, imposing 911/E911 requirements might "completely stifle rural deployments."[294] RTG asserts, for example, that many GSM rural carriers already subject to the E911 requirements could not meet the requisite accuracy standards "because no GPS handsets are available for GSM and cell sites tend to be deployed in a 'string of pearls' along highways."[295] RTG therefore recommends that the Commission should "wait to see how services develop and to revisit the issue in the future."[296]

128. Two commenters also raise issues regarding E911 and voice over internet protocol (VoIP) services. First, TIA argues that, where a wireless carrier provides broadband network access to a subscriber who then obtains interconnected voice services from a third party VoIP provider, the 911 obligation should be imposed on the VoIP provider, not the network access provider, pursuant to the Commission's E911 requirements for VoIP.[297] CTIA, addressing the situation where the wireless access provider and VoIP provider are the same, suggests that the Commission take this opportunity to address a petition filed by T-Mobile seeking clarification of the Commission's *VoIP E911 Order*.[298] T-Mobile's petition asks the Commission to clarify that, under the *VoIP E911 Order*, providers of mobile interconnected VoIP service may deliver location information for VoIP 911 calls to the PSAP using latitude and longitude coordinates in the same fashion as is done for wireless 911 calls.[299] In its comments, CTIA supports the requested clarification, and requests that, in this proceeding, the Commission establish more generally that mobile wireless providers offering interconnected VoIP services may meet their E911 obligations as VoIP providers through compliance with the 911/E911 requirements of § 20.18.[300]

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[290] *See* Aloha Comments in WT Docket No. 06-150 at 12 (700 MHz licensees should be subject to the same E911 requirements, "no more or less," as other licensees providing services where E911 obligations exist); Cingular Comments in WT Docket No. 06-150 at 15 (supporting application where services met the *E911 Scope Order* criteria); Qualcomm Comments in WT Docket No. 06-150 at 24.

[291] *See* TIA Comments in WT Docket No. 06-150 at 9-10.

[292] *See* RTG Comments in WT Docket No. 06-150 at 9.

[293] *Id.*

[294] RTG Comments in WT Docket No. 06-150 at 9-10.

[295] *Id.* at 10.

[296] *Id.*

[297] *See* TIA Comments in WT Docket No. 06-150 at 10.

[298] *See* CTIA Comments in WT Docket No. 06-150 at 22; IP-Enabled Services, E911 Requirements For IP-Enabled Service Providers, WC Docket No. 04-36, *First Report and Order and Notice of Proposed Rulemaking,* 20 FCC Rcd 10245 (2005) (*VoIP E911 Order*), *petition for review denied*, Nuvio Corp. v. FCC, 2006 WL 3688755 (D.C. Cir. 2006).

[299] *See* Petition of T-Mobile USA, Inc. For Clarification, WC Docket No. 04-36, filed July 29, 2006.

[300] *See* CTIA Comments in WT Docket No. 06-150 at 22.

129. Discussion. We conclude that § 20.18(a) should be amended to apply 911/E911 requirements to all commercial mobile radio services (CMRS), including services licensed in the 700 MHz Commercial Services Band and the AWS-1 bands, to the same extent as they apply to wireless services currently listed in the scope provision of § 20.18.[301] Thus, CMRS providers must comply with the 911/E911 requirements solely to the extent that they "[offer] real-time, two way switched voice service that is interconnected with the public switched network and utilize an in-network-switching facility which enables the provider to reuse frequencies and accomplish seamless hand-offs of subscriber calls" (hereinafter, the "§ 20.18(a) criteria").[302] We will continue, however, to exclude MSS from § 20.18 in conformity with the Commission's decision in the *E911 Scope Order*.[303]

130. The public interest generally requires wireless services meeting the § 20.18(a) criteria to provide 911/E911 service, even if not expressly enumerated.[304] The Commission has observed previously that "911 service is critical to our Nation's ability to respond to a host of crises,"[305] and that E911 in particular "saves lives and property by helping emergency services personnel do their jobs more quickly and efficiently."[306] We also take note of Congress's finding in the "Ensuring Needed Help Arrives Near Callers Employing 911 Act of 2004" that "for the sake of our Nation's homeland security and public safety, a universal emergency telephone number (911) that is enhanced with the most modern and state-of-the-art telecommunications capabilities possible should be available to all citizens in all regions of the Nation" and that "enhanced 911 is a high national priority."[307] Accordingly, it is critical that mobile telephone services meeting the § 20.18(a) criteria continue to offer 911 and E911 as they make use of new frequencies.

131. We further find that commercial mobile radio services meeting the 20.18(a) criteria will also meet the four criteria set forth in the *E911 Scope Order*. In particular, we find that these services are likely to compete with services provided pursuant to cellular, broadband PCS, or 800/900 MHz SMR licenses, and that subscribers will have similar expectations of emergency access from services meeting the § 20.18(a) criteria regardless of what frequencies carriers are using to provide them.[308] Indeed, we have found that for many Americans, "the ability to call for help in an emergency is the principal reason they own a wireless phone."[309] This should be no less true for a consumer calling from a phone utilizing

[301] *See* 47 C.F.R. § 20.18.

[302] 47 C.F.R. § 20.18(a).

[303] The Commission initially excluded MSS from § 20.18 in the *E911 Report and Order*. *See E911 Report and Order*, 11 FCC Rcd at 18718 ¶ 83. In the *E911 Scope Order*, upon revisiting the issue, the Commission recognized that MSS operators continued to faced unique difficulties in implementing 911 and E911 obligations, and therefore declined to apply the obligations of § 20.18 and instead imposed a separate, limited 911 requirement specifically for MSS, including a requirement to establish emergency call centers. *See E911 Scope Order*, 18 FCC Rcd at 25347-57 ¶¶ 20-39.

[304] *E911 Report and Order*, 11 FCC Rcd at 18718 ¶ 83.

[305] *See E911 Scope Order*, 18 FCC Rcd at 25341 ¶ 1.

[306] *E911 Report and Order*, 11 FCC Rcd at 18678 ¶ 3, 18679 ¶ 5.

[307] 47 U.S.C. § 942 note.

[308] *See* Cingular Comments in WT Docket No. 06-150 at 16 ("[c]onsumers' expectations and the public interest clearly would be served by extending these rules to 700 MHz licensees"); Leap at 11 ("It is logical, equitable, and indeed, vitally important to consumers that all CMRS services – whether operating in spectrum allocated for PCS, AWS, 700 MHz or some other services, be made subject to the same emergency access and compatibility requirements.").

[309] Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Phase II Compliance Deadlines for Non-Nationwide CMRS Carriers, CC Docket No. 94-102, *Order to Stay*, 17 FCC Rcd 14841, 14842 ¶ 4 (2002).

700 MHz, AWS, or any other spectrum. Further, we find no support in the record, and consider it unlikely, that additional, terrestrial-based commercial mobile radio services meeting all of the criteria of § 20.18(a) will present any special technical obstacles, as compared to currently deployed services, that would warrant modifications of the 911/E911 requirements.[310] To the extent that such obstacles become apparent as new services are established, appropriate modifications can be considered at that time. We therefore agree with the commenters that the extension of the 911/E911 requirements under § 20.18 to all commercial mobile radio services meeting the § 20.18(a) criteria is justified by the interest in competitive neutrality as well as by the critical public safety benefits of 911/E911.[311]

132. We find that RTG's concerns regarding the possible difficulty of implementing 911/E911 in rural areas do not support delaying the extension of the 911/E911 provisioning requirements to other bands and services. RTG bases its argument on conjecture only – that technology being developed for 700 MHz may not support provision of E911 service. Given the critical importance of E911 to consumers and the public safety community, we cannot accept this unsupported assertion as a basis for delaying imposition of E911 requirements and putting at risk the safety of life and property. In this regard, we agree with NENA that deployment of E911 service is most effectively accomplished by establishing E911 requirements at the outset of establishing service in new bands.[312] We also note that, notwithstanding RTG's reference to existing GSM deployments, to the extent that carriers pursue a handset-based solution, all subscribers that obtain service on the new bands should have compliant handsets from the beginning.[313]

133. Blooston, while supporting the extension of 911/E911to the 700 MHz Commercial Services Band, caution that the development of 700 MHz equipment is not as far along as it is for broadband PCS and argue that the timetables for E911 compliance should not "put licensees in a compliance quandary when they have little or no control over the equipment manufacturing process."[314] We note, however, that while manufacturers of handset and voice network technology have no regulatory obligation under § 20.18 to produce E911-compliant products, they do have strong financial incentives to do so if they wish to sell their products to the carriers subject to § 20.18.[315] For example, because CMRS providers that adopt a handset-based solution may activate only location-capable handsets, manufacturers that do not provide location-capable handsets for the new bands may significantly diminish their access to the handset market. Conversely, as noted above, requiring carriers to incorporate E911 technology in

[310] The Commission has stated, in connection with AWS, that an "important goal in the AWS proceeding is to try, to the extent possible, to provide the same technical criteria for AWS equipment as currently exist for broadband PCS." *AWS-1 Order on Reconsideration,* 20 FCC Rcd at ¶ 42. *See also* Aloha Comments in WT Docket No. 06-150 at 10 ("[t]here is nothing peculiar about 700 MHz spectrum that warrants unique treatment with regard to E911 matters").

[311] *See*, *e.g.*, CTIA Comments in WT Docket No. 06-150 at 21 (applying E911 to 700 MHz is dictated by both public safety determinations and principles of regulatory parity); T-Mobile Reply Comments in WT Docket No. 06-150 at 6 ("Not only would the public interest be served . . . , the regulatory certainty created through application of uniform rules to all similarly-situated providers would benefit the licensees themselves.").

[312] *See* NENA Comments in WT Docket No. 06-150 at 2 ("Instead of trying to retrofit E9-1-1 to services long after their introduction, as occurred with conventional cellular telephony, it would be better to forewarn entrepreneurs of emergency calling access obligations that will apply to 700 MHz services meeting the chosen regulatory criteria.")

[313] *See* 47 C.F.R. § 20.18(g)(1)(iv) (requiring that, for carriers implementing a handset-based solution, 100 percent of all new digital handsets activated be location-capable).

[314] Blooston Comments in WT Docket No. 06-150 at 9.

[315] *Cf. E911 Scope Order*, 18 FCC Rcd at 25381 ¶ 101 ("[CMRS providers] typically decide which handsets to offer for use with their service. These are the entities that provide consumers wireless voice service. Therefore, by placing the obligation on these entities, we ensure that the handsets they offer are capable of meeting the enhanced 911 requirements contained in our rules. We, therefore, do not need to impose a separate obligation on disposable phone manufacturers.").

their initial systems also benefits the carriers, because it permits them to adopt 911/E911 without having to modify or replace non-compliant technology.

134. Further, because we have established 911/E911 obligations well before the auctioning of licenses in the 700 MHz Commercial Services Band and not long after the completion of the auction of the AWS-1 bands, we are satisfied that manufacturers will have adequate opportunity to produce compliant solutions for these new services by the time service providers are ready to begin incorporating them. This view is further supported by the fact that the manufacturing interests that commented on the 911/E911 issue, Qualcomm and TIA,[316] both fully supported extension of 911/E911 to the 700 MHz Band.[317] Their support for the 911/E911 extension gives us confidence that manufacturers of communications technology will provide E911-compliant products in a timely fashion, and that new services will not, therefore, be significantly delayed by the need to comply with the 911/E911 mandate. Accordingly, we conclude that § 20.18(a) should be amended to apply 911/E911 requirements to all CMRS providers, other than MSS providers, regardless of the frequencies over which the service is provided. We will continue to exclude MSS, however, and we further emphasize that, by this extension, we do not mean to override any prior Commission decision specifically excluding a particular service, like local SMR, from the obligation to provide 911/E911.

135. While we extend the scope of 911/E911 by deleting references to specific services and spectrum bands, we do not modify the current service criteria set forth in § 20.18(a) to incorporate the four criteria enumerated in the *E911 Scope Order*. As noted above, the four criteria for analyzing whether a service should be subject to 911/E911 include whether (1) the service offers real-time, two-way voice service that is interconnected to the public switched network on either a stand-alone basis or packaged with other telecommunications services; (2) the customers using the service or device have a reasonable expectation of access to 911 and E911 services; (3) the service competes with traditional CMRS or wireline local exchange service; and (4) it is technically and operationally feasible for the service or device to support E911. While the Commission found the criteria useful analytically to "ensur[e] technological and competitive neutrality," and to determine whether particular services should be subject to 911 requirements when a question arises, they were never intended to be definitive and exclusive. Rather, the Commission stated in the *E911 Scope Order* that it would "also consider other factors to inform [its] decision" of whether a service would be subject to 911/E911.[318] We therefore retain the current § 20.18(a) criteria to define the scope of the 911/E911 obligation under § 20.18. We will continue, however, to consider the factors identified in the *E911 Scope Order* when analyzing whether 911/E911 obligations should be applied to a particular new CMRS service, if a significant question arises as to whether the § 20.18(a) criteria apply.

136. We reject CTIA's request to resolve the T-Mobile Petition for Clarification regarding whether compliance with § 20.18 will also satisfy any obligations under the *VoIP E911 Order*. We will resolve that petition at a later time in the proceeding in which it has been filed. We emphasize, however, that providers of a commercial mobile service meeting the criteria specified in § 20.18(a) are required to comply with the E911 requirements of that section, regardless of what spectrum and technology is being used to provide the service. Conversely, only wireless services that satisfy the § 20.18(a) criteria are subject to the requirements of that section. Thus, if a provider offers a non-voice service, this will not trigger the § 20.18 requirements for that provider.[319]

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[316] TIA states that it is "the leading trade association for the information and communications technology [] industry, with 600 member companies that manufacture or supply the products and services used in global communications across all technology platforms." TIA Comments in WT Docket No. 06-150 at 2.

[317] Qualcomm Comments in WT Docket No. 06-150 at 24; TIA Comments in WT Docket No. 06-150 at 9.

[318] *E911 Scope Order*, 18 FCC Rcd at 25347 ¶ 19.

[319] *See also E911 Report and Order*, 11 FCC Rcd at 18717-18 ¶ 82 (declining to extend E911 to two-way non-voice services). We note that service providers offering interconnected VoIP are independently subject to E911 (continued….)

(vii) Hearing Aid-Compatible Wireless Handsets

137. Background. In addition to proposing the extension of 911/E911 requirements to services provided in new spectrum bands, the Commission also sought comment on whether it should similarly extend the hearing aid compatibility requirements under § 20.19.[320] The requirements of § 20.19 were established by the Commission pursuant to the Hearing Aid Compatibility Act of 1988 and a determination by the Commission in 2003 to lift the blanket exemption under that law for digital wireless telephones.[321] Section 20.19 of the Commission's rules requires the providers of certain enumerated wireless services and the manufacturers of handsets used in those services to offer hearing aid-compatible handset models to their customers.[322] As with the 911/E911 obligations under § 20.18, the hearing aid compatibility requirements under § 20.19 currently apply only to providers of broadband PCS, Cellular Radio Telephone Service, and certain SMR providers in the 800/900 MHz bands, and only to the extent that these providers "offer real-time, two-way switched voice or data service that is interconnected with the public switched network and utilizes an in-network switching facility that enables the provider to reuse frequencies and accomplish seamless hand-offs of subscriber calls."[323] The entities subject to § 20.19 must begin offering a specific number of hearing aid-compatible digital wireless handset models by specific dates unless they fall under *de minimis* exceptions.[324] In addition, both carriers and manufacturers are subject to certain labeling requirements in connection with the hearing aid-compatible handsets that they offer.[325]

138. Pursuant to the statutory requirement that there be "established technical standards,"[326] a handset must be certified as meeting a certain level of compatibility under the American National Standards Institute (ANSI) C63.19 standard.[327] More specifically, section 20.19(b) of the Commission's rules provides that a wireless handset is deemed hearing aid-compatible if, at minimum, it receives a U3 rating for radio frequency interference and a U3T rating for inductive coupling "as set forth in the standard document ANSI C63.19-2001[,] 'American National Standard for Methods of Measurement of

(Continued from previous page)
obligations under 47 C.F.R. § 9.5, including such providers using Part 15 unlicensed radio frequency devices to provide such services. *See VoIP E911 Order*, 20 FCC Rcd at 10257-58 ¶ 24 (defining the scope of VoIP E911 obligations), 10259 ¶ 25 (E911 rule applies to "providers of all interconnected VoIP services"); *see also* CTIA Comments in WT Docket No. 06-150 at 22 (noting that wireless providers are offering "IP-enabled services to their subscribers, with VoIP services integrated with mobile devices."); *see also* Petition of T-Mobile USA, Inc. For Clarification, WC Docket No. 04-36, filed July 29, 2006, at ii ("There are promising technologies using unlicensed spectrum in development that may enable the offering of VoIP services in conjunction with CMRS.").

[320] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9390 ¶¶ 104-06.

[321] *See* Hearing Aid Compatibility Act of 1988, Pub. L. No. 100-394, 102 Stat. 976 (1988), codified at 47 U.S.C. § 610; Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, *Report and Order*, WT Docket No. 01-309, 18 FCC Rcd 16753 (2003); *Erratum*, 18 FCC Rcd 18047 (2003) (*Hearing Aid Compatibility Order*).

[322] 47 C.F.R. § 20.19.

[323] 47 C.F.R. § 20.19(a).

[324] *See* 47 C.F.R. § 20.19(c), (d). *See also* Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, *Report and Order*, WT Docket No. 01-309, 18 FCC Rcd 16753 (2003); *Erratum*, 18 FCC Rcd 18047 (2003) (*Hearing Aid Compatibility Order*); *Order on Reconsideration and Further Notice of Proposed Rulemaking*, 20 FCC Rcd 11221 (2005).

[325] *See* 47 C.F.R. § 20.19(f).

[326] 47 U.S.C. § 610(b)(1).

[327] 47 C.F.R. § 20.19(b)(1), (2).

Compatibility between Wireless Communications Devices and Hearing Aids.'"[328] On April 25, 2005, the Commission's Office of Engineering and Technology (OET) announced that it would also certify handsets as hearing aid-compatible based on the revised draft version of the standard, ANSI C63.19-2005,[329] and on June 6, 2006, OET and the Wireless Telecommunications Bureau permitted certification under version 3.12 of that standard (ANSI C63.19-2006), which reflected further revisions adopted and released in 2006.[330] All of these versions focus on existing services that are in common use. Thus, the 2001 version provides tests for established services in the 800-950 MHz and 1.6-2.0 GHz bands, while the latest version of the ANSI C63.19 standard expands this to include established services in the 1.6-2.5 GHz band.[331] As a result, while applicants for certification may rely on the 2001, 2005, or 2006 version of the ANSI C63.19 standard, none of these versions of the ANSI standard currently provide tests for services in the 700 MHz Band, the AWS-1 band (which lacks established services), the BRS/EBS band, or for newer technologies such as WiMAX.[332]

139. In the *700 MHz Commercial Services Notice*, we tentatively concluded that we should amend our Part 20 rules to specify that Part 27 services, including 700 MHz Commercial Services Band services, that meet the *E911 Scope Order* criteria with appropriate modifications for hearing aid compatibility should be subject to the hearing aid compatibility requirements.[333] We also sought

[328] *Id.* We note that, since its 2005 draft version, the ANSI C63.19 technical standard has used a new nomenclature for hearing aid compatibility compliance in place of the original "U" and "UT" ratings, in order to make the ratings easier for consumers to understand. *See* Letter from Thomas Goode, counsel for The Alliance for Telecommunications Industry Solutions, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 01-309 (filed May 6, 2005) (ATIS Letter); "OET Clarifies Use of Revised Wireless Phone Hearing Aid Compatibility Standard Measurement Procedures and Rating Nomenclature," *Public Notice*, 20 FCC Rcd 8188 (OET 2005). Specifically, the standard now uses an "M" nomenclature for the handset's radio frequency interference rating (rather than "U") and a "T" nomenclature for the handset's inductive coupling rating (rather than "UT"). *See* ATIS Letter. The Commission has approved the use of the "M" and "T" nomenclature and considers the M/T and U/UT nomenclatures as synonymous. *See* Section 68.4(a) of the Commission's Rules Governing Hearing-Aid Compatible Telephones, *Order on Reconsideration and Further Notice of Proposed Rulemaking*, WT Docket No. 01-309, 20 FCC Rcd 11221, 11238 ¶ 33 (*Hearing Aid Compatibility Reconsideration Order*).

[329] *See* "OET Clarifies Use of Revised Wireless Phone Hearing Aid Compatibility Standard Measurement Procedures and Rating Nomenclature," *Public Notice*, 20 FCC Rcd 8188 (OET 2005).

[330] *See* "Wireless Telecommunications Bureau and Office of Engineering and Technology Clarify Use of Revised Wireless Phone Hearing Aid Compatibility Standard," *Public Notice*, 21 FCC Rcd 6384 (WTB/OET 2006).

[331] Section 1.1, "Scope," of the ANSI C63.19-2006 standard provides:

> [The standard] sets forth uniform methods of measurement and parametric requirements for the electromagnetic and operational compatibility and accessibility of hearing aids used with [wireless devices], including cordless, cellular, personal communications service (PCS) phones, and voice over internet protocol (VoIP) devices, operating in the range of 800 MHz to 3 GHz. However, this version is focused on existing services, which are in common use. Accordingly, in this version tests are provided for services in the 800 MHz to 950 MHz and 1.6 GHz to 2.5 GHz frequency bands. Future versions may add tests for other frequency bands, as they come into more common use.

"American National Standard Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids," ANSI C63.19-2006, Accredited Standards Committee on Electromagnetic Compatibility, C63, approved Apr. 6, 2006 (ANSI C63.19-2006 Standard), at 1.

[332] *See* ANSI C63.19-2006 Standard at Table 4.2 (listing target values for validation procedures using dipoles at a limited number of frequencies, and excluding AWS-1 frequencies), Table 7.1 (giving Articulation Weighting Factors for CDMA, TDMA (50 Hz), GSM, UMTS (WCDMA) and TDMA (22 Hz and 11 Hz)). *See also* Comments from American National Standards institute Accredited Standards Committee C63 (EMC) ANSI ASC C63, WT Docket Nos. 01-309, 06-203, filed Jan. 3, 2007, at 3.

[333] *See 700 MHz Commercial Services Notice*, 21 FCC at 9390 ¶¶ 104-05.

comment, without reaching any tentative conclusion, on whether we should amend § 20.19(a) to ensure that all similar wireless services that meet the criteria discussed above would be subject to the hearing aid compatibility requirements.[334] In addition, we noted that the current technical standard for hearing aid compatibility only applies to phones operating on certain frequencies, which do not include operations in the 700 MHz spectrum.[335] We thus sought comment on what changes to the industry standard governing digital wireless handsets' compatibility with hearing aids, ANSI C63.19-2006, would be necessary in order to establish measurement methods and parametric requirements for services provided in the 700 MHz Commercial Services Band.[336] Finally, we sought comment on the time necessary to complete such changes to the standard.[337]

140. Comments on extending hearing aid compatibility requirements express positions similar to those taken on 911/E911. Commenters again widely support the Commission's proposal to require 700 MHz manufacturers and service providers to provide hearing aid-compatible phones.[338] There is again little discussion regarding extending the requirements to other bands.[339] Further, Blooston expresses the same concern as they did in connection with 911/E911 implementation that the development of 700 MHz equipment is not yet as far along as other equipment and that timetables for compliance "should not put licensees into a compliance quandary."[340] RTG considers the imposition of hearing aid compatibility obligations at this time to be "premature."[341]

141. Regarding changes to the hearing aid compatibility standard, the Hearing Aid Industries Association (HIA) argues that the current ANSI C63.19-2006 standard should be "easily adaptable to include the 700 MHz band" and that "[h]andset behavior in the new 700 MHz band is not likely to be significantly different from behavior in the well-established 800 MHz cellular band."[342] It further states that, "[t]o the extent that modification of the ANSI standard becomes necessary during the design and manufacturing processes for 700 MHz handsets, HIA and its members will continue to participate in activities addressing any needed additions or refinements."[343]

142. Discussion. For reasons similar to those discussed in the E911 section above, we determine that all digital CMRS providers, including providers of such services in the 700 MHz Commercial Services Band and the AWS-1 and BRS/EBS bands, should be subject to hearing aid compatibility requirements under § 20.19 to the extent they offer real-time, two-way switched voice or data service that is interconnected with the public switched network and utilizes an in-network switching

[334] *Id.* at 9390 ¶ 106.

[335] *Id.* at 9358 n.82.

[336] *See id.* at 9390 ¶ 21.

[337] *Id.*

[338] *See* AT&T Comments in WT Docket No. 06-150 at 16; Blooston Comments in WT Docket No. 06-150 at 8; Cingular Comments in WT Docket No. 06-150 at 15; CTIA Comments in WT Docket No. 06-150 at 21; Dobson Comments in WT Docket No. 06-150 at 11; HIA Comments in WT Docket No. 06-150 at 2-3; HLAA Comments in WT Docket No. 06-150 at 4; Leap Comments in WT Docket No. 06-150 at 11; Qualcomm Comments in WT Docket No. 06-150 at 24; TIA Comments in WT Docket No. 06-150 at 10; U.S. Cellular Comments in WT Docket No. 06-150 at 18-19; T-Mobile Reply Comments in WT Docket No. 06-150 at 6.

[339] *See* Leap Comments in WT Docket No. 06-150 at 11 (advocating that "all CMRS services – whether operating in spectrum allocated for PCS, AWS, 700 MHz or some other service – be made subject to the same emergency access and compatibility requirements.").

[340] *See* Blooston Comments in WT Docket No. 06-150 at 8-9.

[341] *See* RTG Comments in WT Docket No. 06-150 at 9.

[342] HIA Comments in WT Docket No. 06-150 at 4 & n.7.

[343] *Id.* at 4.

facility that enables the provider to reuse frequencies and accomplish seamless hand-offs of subscriber calls. In addition, manufacturers of wireless handsets that are capable of providing such service also should be made subject to the applicable requirements of § 20.19. As discussed below, however, the existence of an established, applicable technical standard is a statutory requirement for imposing hearing aid compatibility requirements. Because no such standard currently exists for any services beyond the broadband PCS, Cellular, and certain SMR bands, we cannot presently impose hearing aid compatibility requirements on additional services. We do commit to bringing all digital CMRS within the scope of the § 20.19 requirements as appropriate technical standards are developed, and we take steps to promote the development of these technical standards, as discussed below. In particular, we establish a specific timetable for the development of the necessary technical standards for those new services that have governing service rules in place. We amend the rule to reflect these determinations, including our decision that hearing aid compatibility requirements will apply to any CMRS to the extent that it meets the criteria discussed above and there is an established technical standard for hearing aid compatibility applicable to the relevant handsets.

143. Extending hearing aid compatibility requirements to services beyond those currently covered will ensure that comparable service providers and manufacturers will be required to comply with similar hearing aid-compatible handset requirements regardless of the frequency bands on which they operate.[344] Further, end users will be able to expect the full range of functionality found today in mobile phones without having to know the technical details, such as the frequencies on which their phones operate.[345] Moreover, by clarifying the applicability of the hearing aid compatibility rules to these manufacturers and service providers now, we enable them to begin planning to incorporate hearing aid compatibility compliance into their operations at the earliest possible stage, which should also promote a more efficient implementation.[346] We also ensure that the necessary parties become involved in ongoing discussions among the Commission, service providers, standards bodies, and industry representatives to develop additional standards for hearing aid compatibility measurement methods and parametric requirements.[347]

144. This extension is consistent with the views of most commenters, which are generally supportive of the idea of extending the hearing aid compatibility requirements to services in new spectrum, and particularly the 700 MHz Commercial Services Band, to the extent that those services are similar to the services already subject to hearing aid compatibility requirements. As with the supporters of E911 extension, commenters supporting application of the hearing aid compatibility requirements to 700 MHz service providers include a broad range of interests, including large and mid-sized wireless carriers,[348] manufacturing interests,[349] and groups representing hearing aid users and manufacturers.[350]

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[344] *See* Aloha Partners Comments in WT Docket No. 06-150 at 12; CTIA Comments in WT Docket No. 06-150 at 22; USCC Comments in WT Docket No. 06-150 at 18-19. *See also* Implementation of Sections 3(n) and 332 of the Communications Act, *Third Report and Order,* GN Docket No. 93-252, 9 FCC Rcd 7988 at ¶ 23 (1994) (noting that a "symmetrical regulatory framework for commercial mobile radio services" will "foster economic growth and expanded service to consumers through competition").

[345] *See* Cingular Comments in WT Docket No. 06-150 at 16 (stating that "[c]onsumers' expectations" will be served by extension of hearing aid compatibility requirements to the 700 MHz band).

[346] *See* HIA Comments in WT Docket No. 06-150 at 3; HIA Reply Comments in WT Docket No. 06-150 at 2

[347] For the reasons discussed above**,** we decline to incorporate the criteria enumerated in the *E911 Scope Order* into § 20.19(a). *See supra* Section III.A.2.c(vi).

[348] *See* Cingular Comments in WT Docket No. 06-150 at 15-16; Dobson Communications Comments in WT Docket No. 06-150 at 11; U.S. Cellular Comments in WT Docket No. 06-150 at 18-19.

[349] Qualcomm Comments in WT Docket No. 06-150 at 24; TIA Comments in WT Docket No. 06-150 at 9-10.

[350] *See* HIA Comments in WT Docket No. 06-150 at 2-3; HLAA Comments in WT Docket No. 06-150 at 2.

Accordingly, we conclude that any CMRS digital service that meets the § 20.19(a) criteria for inclusion should be subject to hearing aid compatibility requirements.

145. We decline, however, to impose hearing aid compatibility obligations on other services and bands at this time. When the Commission imposed the existing hearing aid compatibility obligations on handset manufacturers and service providers in 2003, it simultaneously approved ANSI C63.19 as an established technical standard applicable to the services covered by the rule.[351] Indeed, the Commission noted that the existence of an established technical standard was a statutory requirement for imposing hearing aid compatibility, and further found that this statutory requirement was "[f]undamental" to the determination of whether to impose hearing aid compatibility on wireless devices.[352] We therefore find that an applicable technical standard should be in place when hearing aid compatibility obligations are imposed in the 700 MHz Commercial Services Band and other bands.

146. As noted above, none of the available versions of the current hearing aid compatibility standard cover services in the 700 MHz Commercial Services Band or the AWS-1 or BRS/EBS bands. Nor do they provide tests for some of the technologies anticipated in these bands, such as WiMAX. HIA argues that the ANSI C63.19-2006 standard for the 800 MHz band provides an appropriate framework to measure performance in the 700 MHz Band for purposes of determining hearing aid compatibility, but the record does not establish that the existing standard can be extended to that band without modifications or amendments. Indeed, HIA concedes that modifications to the standard may be necessary,[353] and the Hearing Loss Association of America (HLAA) also supports this conclusion, noting that changes to the standard will be necessary to accommodate emerging technologies.[354] Accordingly, we conclude that we cannot extend specific hearing aid compatibility obligations to emerging bands and services until specific standards that establish the hearing aid compatibility measurement methods and parametric requirements for these additional services' and bands' devices are developed.

147. We note that ANSI has stated that it has authorized a "study project" to examine, among other topics related to the C63.19 standard, the possibility of extending the relevant frequency band for wireless devices' compatibility with hearing aids to the range from 700 MHz to 8 GHz.[355] The same study project will consider the addition of tests and parametric requirements for other frequency bands including AWS-1 at 1710/2110 MHz and the BRS/EBS at 2.5 GHz, as well as new broadband technologies.[356] Because we find that a standard for compliance should be established before hearing aid compatibility is imposed on a service, and because such standards are currently in development for the new bands and technologies, we decline to extend hearing aid compatibility requirements at this time.

148. Establishment of hearing aid compatibility requirements for comparable services must not be delayed – particularly for the 700 MHz Commercial Services Band and the other bands currently

[351] *See Hearing Aid Compatibility Order*, 18 FCC Rcd at 16771 ¶ 43.

[352] *See id.*, 18 FCC Rcd at 16769 ¶¶ 39 (citing 47 U.S.C. § 610(b)(1)(B) (requiring that the specified telephones "provide internal means for effective use with hearing aids that are designed to be compatible with telephones *which meet established technical standards for hearing aid compatibility*." (emphasis added))), 44, 49. *See also* Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, *Notice of Proposed Rulemaking*, 16 FCC Rcd 20558, 20564 ¶ 16 (2001) (finding that the statute "requires the establishment of *technical standards* governing wireless-hearing aid compatibility" (emphasis in original)).

[353] *See* HIA Comments in WT Docket No. 06-150 at 4.

[354] *See* HLAA Comments in WT Docket No. 06-150 at 4.

[355] Comments from American National Standards Institute Accredited Standards Committee C63 (EMC) ANSI ASC C63, WT Docket Nos. 01-309 and 06-203, filed Jan. 3, 2007, at 2-3.

[356] *Id.*at 3.

listed in § 27.1(b), which include the AWS-1, BRS/EBS, 1.4 GHz, 1.6 GHz, and 2.3 GHz bands,[357] all of which now have or soon will have service rules established, and which either have been or will soon be licensed.[358] Because we seek to promote the development of additional standards, we establish a schedule for future Commission actions. Accordingly, if the appropriate technical standards for the bands listed in § 27.1(b) are established within 24 months of the Federal Register publication of this Order, we will proceed based on the adopted standards and we commit to initiating a further proceeding at that time to establish a specific timetable for deployment of hearing aid-compatible handsets for services in the relevant bands that meet the criteria discussed above. Given that ANSI is already considering extensions of the C63.19 standard to the 700 MHz Commercial Services Band and the AWS-1 and BRS/EBS bands, we find that a 24 month period to complete standards for these services is reasonable.[359] We strongly encourage ANSI and the various stakeholders in this process to work together towards adoption of technical standards in a timely manner so that hearing aid users will have the same accessibility to interconnected services in the new bands as they do in the bands already addressed in section 20.19(a) of the Commission's rules.[360]

149. We will continue to monitor progress to make sure that the adoption of such standards proceeds in a timely manner. If no standards have been adopted within 24 months, we will consider alternative means to implement compatibility requirements, including whether to develop new metrics for compliance entirely and/or whether to extend the C63.19-2006 standard for the 800 MHz Band into the 700 MHz Commercial Services Band, as HIA suggests.[361] We will not at this time establish a schedule for future action regarding bands other than the current 27.1(b) bands because it does not appear to be possible to develop compatibility standards in the absence of service rules. We also note that there is little or no discussion in the record of extending hearing aid compatibility beyond the 700 MHz Commercial Services Band. We will, however, pursue appropriate action as the nature of services in new bands becomes more defined or we find that an applicable standard has been or can be developed.

150. Although we do not impose specific hearing aid compatibility obligations on these services at this time, we again reject RTG's assertion that a timetable for such obligations must

[357] The 1.4 GHz Band, as licensed under Part 27, includes an unpaired block of spectrum at 1390-1392 MHz and a paired block at 1392-1395 MHz and 1432-1435 MHz. The 1.6 GHz Band consists of 1670-1675 MHz. The 2.3 GHz Band includes 2305-2320 MHz and 2345-2360 MHz. *See* 47 C.F.R. § 27.1(b)(4)-(6).

[358] *See* 47 C.F.R. § 27.1(b) (listing bands licensed under Part 27 rules, including 2.3 GHz, 700 MHz, AWS-1, 1.4 GHz, 1.6 GHz, and BRS/EBS bands); *see also*, *e.g.*, Amendments to Parts 1, 2, 27 and 90 of the Commission's Rules to License Services in the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands, WT Docket No. 02-8, *Report and Order*, 17 FCC Rcd 9980 (2002) (establishing service rules for certain frequencies in the 1.4 and 1.6 GHz bands); Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 02-353, *Report and Order*, 18 FCC Rcd 25162 (2003), *Order on Reconsideration*, FCC 05-149 (rel. Aug. 15, 2005) (establishing AWS-1 service rules); Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands, *Report and Order and Further Notice of Proposed Rulemaking*, WT Docket No. 03-66, 19 FCC Rcd 14165 (2004) (BRS/EBS R&O and FNPRM), *Order on Reconsideration and Fifth Memorandum Opinion and Order and Third Memorandum Opinion and Order and Second Report and Order*, 21 FCC Rcd 5606 (2006) (establishing BRS/EBS service rules).

[359] *See supra* ¶ 171. We also note that ANSI has extended the C63.19 standard to the 1.6-2.5 GHz band for established services in those bands. We therefore believe that much of the work necessary to develop technical standards for the 1.4 GHz, 1.6 GHz, and 2.3 GHz Bands has already been done.

[360] In particular, we would encourage the appropriate standards-setting body to consider HIA's proposal to make use of the existing C63.19-2006 standard in the 700 MHz Band.

[361] The Commission has authority to establish the technical standards required for hearing aid compatibility. *See* 47 U.S.C. 610(c).

necessarily wait until the nature of the services to be offered, the technologies to be used in the band, and the impact on rural carriers are clearer. We emphasize that the services subject to hearing aid compatibility obligations in the 700 MHz Commercial Services Band and elsewhere will be the same types of services that are subject to such obligations in other bands under the existing § 20.19(a) of the Commission's rules.[362] Therefore, once an appropriate technical standard is available, we do not find it necessary to delay implementation any further in order to see how the services in the band develop or through what technologies they are provided. Rather, we will expect similar services to be subject to similar hearing aid compatibility obligations, regardless of the technologies over which they are provided. Although the development of an appropriate standard will be technology-specific, the technologies that need to be addressed are few in number, and, as noted above, a study project has already been authorized by the ANSI ASC C63 Committee to develop the appropriate hearing aid compatibility measurement methods and parametric requirements for these technologies. Finally, because we are imposing no new rules at this time, any analysis of the impact of these obligations on small rural carriers in particular can be deferred until the standards are in place to allow the further rulemaking activity.

B. 700 MHz Guard Bands

151. As we indicated in the *700 MHz Guard Bands Notice,* we seek to establish rules and policies that provide Guard Band licensees greater flexibility while continuing to ensure non-interference with the adjacent 700 MHz Public Safety spectrum. As part of this endeavor we sought comment on a number of band restructuring proposals. As discussed below in the Further Notice, we tentatively conclude that we do not have the legal authority, and it is not in the public interest, to adopt at this time certain of the band restructuring proposals raised in this docket.[363] We do, however, take several measures in this Report and Order, as broadly endorsed by commenters, to promote more efficient and effective use of the 700 MHz Guard Bands spectrum. Specifically, we replace the current band manager leasing regime with the spectrum leasing policies and rules adopted in the Secondary Markets proceeding. In applying the Secondary Markets leasing rules to the 700 MHz Guard Bands, we are eliminating the special restrictions imposed under the Guard Bands licensing regime that prevented licensees from using their spectrum as a wireless service provider and restricted their ability to lease to affiliates, and permitting more operational flexibility for 700 MHz Guard Bands licensees.

1. Background

152. As discussed in the *700 MHz Guard Bands Notice,* in adopting the licensing, technical and operational rules for the 700 MHz Guard Bands, the Commission created a new class of commercial licensee that makes spectrum available to system operators or directly to end users through private, written contracts known as "spectrum user agreements."[364] The Commission afforded these Guard Band Manager licensees flexibility to tailor their spectrum to the unique requirements of potential system

[362] *See* HIA Reply Comments in WT Docket No. 06-150 at 2 ("[Hearing aid compatibility] relates to voice communication, so there is no need to wait and see what other services may develop before imposing the requirements on voice handsets."). Although the text of the scope provision does encompass data services as well, *see* 47 C.F.R. § 20.19(a), we note that such services must still satisfy the other requirements of § 20.19(a). Thus, they must be real-time, two-way, and interconnected with the public switched network, such that they directly give subscribers "the capability to communicate to or receive communications from all other users" on networks that use the North American Numbering Plan in connection with the provision of their service. *See* 47 C.F.R. § 20.3 (definition of "Interconnected Service," "Public Switched Network"). Further, as an implicit matter, services must at least potentially involve auditory output. In light of these restrictions, voice communications will remain the primary, if not exclusive, subject of hearing aid compatibility.

[363] *See infra* Section IV.B.2.a.

[364] *700 MHz Guard Bands Notice*, 21 FCC Rcd at10417 ¶ 9, *citing Upper 700 MHz Second Report and Order,* 15 FCC Rcd at 5312 ¶ 27. *See generally* 47 C.F.R. Part 27, Subpart G ("Guard Band Managers").

operators or end users.[365] The Commission stated that the primary responsibility of the Guard Band Manager is to ensure non-interference with the adjacent 700 MHz Public Safety Band,[366] and that the Guard Band Manager retains ultimate control of spectrum use within the scope of its license, including subdivision of spectrum blocks and geographic areas, frequency coordination, channel selection, resolution of interference conflicts, and compliance with the Commission's rules.[367] Guard Band Managers also are subject to stringent coordination requirements,[368] cannot use their spectrum as a wireless service provider, and cannot lease more than 49.9 percent of their spectrum in a geographic area to affiliates.[369]

153. The *700 MHz Guard Bands Notice* also noted that, subsequent to the adoption of the Guard Band Manager licensing regime, the Commission in 2003 established a broad set of new spectrum leasing policies and rules in its Secondary Markets proceeding and applied these spectrum leasing policies and rules to most Wireless Radio Service licensees holding "exclusive use" licenses.[370] These spectrum leasing policies and rules, adopted in the *Secondary Markets First Report and Order* and extended to additional Wireless Radio Services in the 2004 *Secondary Markets Second Report and Order*,[371] generally permit two types of leasing options: *de facto* transfer leasing, and spectrum manager leasing. A *de facto* transfer lease arrangement places primary responsibility upon the spectrum lessee to interact with the Commission and ensure compliance with the Commission's rules; however the licensee retains ultimate responsibility for its lessees' ongoing violations or other egregious behavior about which the licensee has knowledge or should have knowledge.[372] Under this option, subject to Commission approval, "licensees and spectrum lessees may enter into spectrum leasing arrangements – for any amount of spectrum, in any geographic area, and for any period of time within the scope and term of the license – in which *de facto* control of the leased spectrum is transferred to the spectrum lessee(s) for the duration of the lease."[373] Under the second option, spectrum manager leasing, "licensees and spectrum lessees may enter into spectrum leasing arrangements – for any amount of spectrum, in any geographic area, and for any period

[365] *700 MHz Guard Bands Notice,* 21 FCC Rcd at10417 ¶ 9, citing *Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5313 ¶ 29. For example, we noted, entities could secure spectrum from a Guard Band Manager in varying degrees of quantity, duration and geographic area to best suit their needs. *700 MHz Guard Bands Notice,* 21 FCC Rcd at 10417 ¶ 9, citing *Second Report and Order*, 15 FCC Rcd at 5313-14 ¶ 31.

[366] *700 MHz Guard Bands Notice,* 21 FCC Rcd at 10418 ¶ 10, citing *Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5314-15 ¶ 33.

[367] *700 MHz Guard Bands Notice,* 21 FCC Rcd at 10417 ¶ 9, citing *Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5314 ¶ 32.

[368] *700 MHz Guard Bands Notice*, 21 FCC Rcd at 10418 ¶ 10, citing *Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5315 ¶ 34. Guard Band Managers must notify Commission-recognized public safety frequency coordinators in the 700 MHz Public Safety Band, as well as adjacent-area Guard Band Managers, of the technical parameters of any new station or station modification. The Commission requires each notification to specify, within a limited timeframe, the frequency, antenna height, antenna location, emission type, effective radiated power, service area description, date of coordination, and user name or description of operation. *Id.*

[369] *Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5325 ¶ 59. The Commission created these restrictions to promote the core band manager feature of leasing spectrum to third parties, theoretically ensuring a "useful test of the Band Manager concept." *Id.*

[370] *See* Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, *Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 20604, 20644-45 ¶ 85 n.189 (2003) ("*Secondary Markets First Report and Order*"). *See generally* 47 C.F.R. Part 1, Subpart X ("Spectrum Leasing").

[371] *Secondary Markets Second Report and Order*, 19 FCC Rcd at 17534-35 ¶ 64.

[372] *Secondary Markets First Report and Order*, 18 FCC Rcd at 20612-13 ¶ 13.

[373] *Id.* In this type of spectrum leasing arrangement, the licensee retains *de jure* control. *Id.*

of time within the scope and term of the license – without the need for prior Commission approval, provided the licensees retain *de facto* control…over the leased spectrum."[374] Application filings through the Universal Licensing System (ULS) are required for both types of spectrum leasing arrangements, and spectrum leasing parties must submit detailed information on the amount, frequency and geographic location of the leased spectrum, as well as the length of the spectrum leasing arrangement.[375]

154. At the time, the Commission did not apply spectrum leasing policies adopted in the Secondary Markets proceeding to the 700 MHz Guard Bands.[376] The Commission also did not extend the Secondary Markets spectrum leasing policies to the 700 MHz Guard Bands in the 2004 *Secondary Markets Second Report and Order*, noting that the 700 MHz Guard Bands service "already has its own distinct set of policies and rules regarding leasing arrangements, and no commenters proposed replacing those policies" with the model adopted in the Secondary Markets proceeding.[377]

155. In the *700 MHz Guard Bands Notice*, we sought comment on whether we should retain our existing Guard Band Manager rules or whether we should apply a different set of policies and rules for enabling third parties to gain access to spectrum usage rights, such as those adopted in the Secondary Markets proceeding.[378] We also asked whether we should apply the existing Guard Band Manager rules to the returned Nextel spectrum or whether another regulatory structure is appropriate, even if existing rules are retained for incumbent licensees.[379] We also asked whether we should permit existing or new licensees to choose among several regulatory options for managing the 700 MHz Guard Bands, and if so, how we may best implement such an approach, including how to accommodate different regulatory schemes within the same band.[380] We also sought comment on any alternative approach involving relaxation of certain band manager restrictions, while retaining the overall band manager concept.[381] Finally, we asked any proponent of a revised Guard Band Manager regime to comment on how its proposal will fulfill the primary responsibility of any Guard Band licensee to ensure non-interference with the adjacent 700 MHz Public Safety Band.[382]

2. Discussion

156. For the reasons described below, we replace the Guard Band Manager regime in favor of the spectrum leasing policies and rules adopted in the Secondary Markets proceeding, and remove certain use and eligibility restrictions regarding licensee operations and leasing to affiliates to encourage the most effective and efficient use of the Guard Bands spectrum. While we seek to provide licensees and spectrum lessees with greater latitude and remove regulatory barriers where possible, we retain the existing Guard Band Manager coordination requirements.

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[374] *Id.* at 20610-12 ¶ 12. In this type of lease arrangement, the licensee retains both *de jure* and *de facto* control. *Id.*

[375] *See* 47 C.F.R. ¶¶ 1.9010, 1.9020, 1.9030, 1.9035.

[376] *Secondary Markets First Report and Order*, 18 FCC Rcd at 20644-45 ¶ 85.

[377] *See* Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, *Second Report and Order, Order on Reconsideration and Second Further Notice of Proposed Rulemaking*, 19 FCC Rcd 17503, 17534-35 ¶ 64 (2004) ("*Secondary Markets Second Report and Order*").

[378] *700 MHz Guard Bands Notice,* 21 FCC Rcd at 10421-24 ¶¶ 18-24.

[379] *Id.* at 10423 ¶ 22.

[380] *Id.*

[381] *Id.*

[382] *Id.* at 10424 ¶ 24.

a. Adoption of Secondary Markets Spectrum Leasing Rules

157. Among our key public interest objectives is to ensure that spectrum is put to its most efficient and effective use, and the Commission has increasingly granted technical and operational flexibility to its licensees to enable them to achieve that goal when it is consistent with preventing unacceptable interference. In adopting the Secondary Markets spectrum leasing policies and rules, the Commission accommodated the demand for significantly broader access to licensed spectrum by enabling a wide array of facilities-based providers to enter into spectrum leasing arrangements with spectrum users. These rules provided licensees with greater ability and incentive to make unused spectrum available to third parties, and thus promoted the provision of new and diverse services and applications. Third parties that could benefit from such spectrum leasing arrangements may include current spectrum operators requiring additional spectrum to meet customer needs over either the short- or long-term, new entrants seeking to provide a niche service and serve a limited area or narrowly targeted end-user market, small businesses trying to deliver services in rural communities, or entities unable or unwilling to participate in spectrum auctions or that otherwise do not have a license through which they can access spectrum to meet consumer or internal operational needs. By adopting the Secondary Markets spectrum leasing model, the Commission sought to establish spectrum leasing policies that allow licensees and spectrum lessees significant flexibility to enter into leasing arrangements that best meet their respective business needs and enable more efficient use of spectrum.

158. Commenters in this proceeding advocate replacing the existing Guard Band Manager rules with the Secondary Markets spectrum leasing policies and rules.[383] Commenters argue that the spectrum leasing options under the Secondary Markets rules offer a more flexible approach to the leasing of spectrum, and will aid 700 MHz Guard Bands licensees in maximizing the use of their spectrum, enabling more parties to gain access to spectrum through leasing agreements.[384] We agree with commenters that the Secondary Markets spectrum leasing model may be more effective than the existing band manager rules in accomplishing the Commission's goals of permitting the efficient and intensive use of spectrum while protecting public safety operations from harmful interference. Although the Commission sought to provide appropriate incentives to encourage greater participation in band manager leasing arrangements, the Guard Band Managers appear to have had limited success in negotiating spectrum user agreements with third parties.[385] In contrast, the steadily increasing number of spectrum leasing arrangements in the other Wireless Radio Services reflects the growing use and acceptance of Secondary Markets spectrum leasing policies by wireless providers and spectrum lessees as an effective method to make spectrum more readily available to additional spectrum users. Since the Secondary Markets spectrum leasing procedures went into effect in February 2004, licensees and spectrum lessees have entered into approximately 1,200 spectrum leasing arrangements.

159. Accordingly, we determine that providing Guard Bands licensees the additional flexibility offered by the Secondary Markets spectrum leasing regime would enhance spectrum usage in the 700 MHz Guard Bands. Specifically, in order to provide maximum flexibility, Guard Band licensees now will have the option of entering into both spectrum manager leasing and *de facto* transfer leasing arrangements. By permitting Guard Band licensees and spectrum lessees to choose between the two different options, we will afford licensees and spectrum lessees significant flexibility to craft the type of leasing arrangement that best matches their particular needs and the demands of the marketplace. This

[383] Access Spectrum/Pegasus Comments in WT Docket No. 06-169, App. at 2; Ericsson Comments in WT Docket No.. 06-169 at 18; Radiofone Comments in WT Docket Nos. 06-169 at 8; Arcadian Reply Comments in WT Docket No. 06-169 at 4. NPSTC does not object to the application of Secondary Markets leasing rules, provided that whatever mechanism is established fully protects public safety operations from interference. NPSTC Comments in WT Docket No. 06-169 at 10.

[384] *See id.*

[385] *See supra* Section III.B.1.

flexibility could, in turn, help achieve fuller utilization of the spectrum. For example, adopting rules that permit Guard Band licensees to participate in *de facto* transfer leasing – in which primary responsibility for compliance with statutory and regulatory policies and rules is transferred from licensees to spectrum lessees – could encourage a licensee to enter into a leasing agreement that might otherwise be unattractive due to the level of operational oversight necessary to ensure compliance with the Commission's rules in a specific case.

160. We emphasize, however, that by affording 700 MHz Guard Band licensees greater flexibility, particularly in the *de facto* transfer leasing context, we are not minimizing in any way the requirement that these licensees must ensure that adjacent public safety operations are protected from harmful interference. Protection of 700 MHz public safety operations from interference remains the primary goal of the Commission's policies relating to the 700 MHz Guard Bands. We agree with comments that the Secondary Markets spectrum leasing rules provide sufficient mechanisms to ensure non-interference with spectrum users in the adjacent 700 MHz Public Safety Band. As noted by the BOP proponents, the Secondary Markets spectrum leasing rules provide protection equivalent to the band manager rules.

161. Although we recognize that the additional flexibility afforded by the *de facto* transfer spectrum leasing option transfers the primary responsibility for ensuring interference protection to the spectrum lessee, we conclude that public safety users will still be protected from interference under the Secondary Markets spectrum leasing rules. Under this option, 700 MHz Guard Band licensees continue to retain some responsibility for operations encompassed under their license authorizations,[386] and may be held responsible in cases of ongoing violation or other egregious lessee behavior for which licensees have, or should have, knowledge.[387] More importantly, although we expect Guard Band licensees to continue to exercise some oversight of its lessees, the Commission retains direct authority to pursue remedies against lessees under Section 503(b) of the Act.[388] Spectrum lessees, whether under a spectrum manager leasing arrangement or a *de facto* transfer leasing arrangement, must strictly comply with the technical restrictions of the band, and must expressly agree to comply with all applicable Commission rules as a condition of the spectrum leasing arrangement.[389] Regardless of whether the licensee or spectrum lessee holds primary responsibility for compliance with Commission rules, the Commission maintains the ability to take direct and swift action to enforce compliance with its rules.

162. We conclude that we should apply our Secondary Markets spectrum leasing rules to the 700 MHz Guard Bands service. By doing so, we will facilitate more efficient use of the spectrum by licensees and spectrum lessees, and will produce a more market-driven system that should better meet the needs of the public without compromising the Commission's other core public interest goals – specifically, ensuring that public safety operations are protected from harmful interference.[390] Although we sought comment on whether we should permit licensees to choose between the existing Guard Band

[386] *See Secondary Markets First Report and Order*, 18 FCC Rcd at 20664 ¶ 136.

[387] *Id.*

[388] *Id.* at 20664 ¶¶ 137-138.

[389] *See* 47 C.F.R. §§ 1.9020(d)(1), 1.9030(d)(1), 1.9035 and 1.9040(a).

[390] We note that because we will now apply secondary markets leasing rules to the 700 MHz Guard Bands, our designated entity rules – specifically the rules regarding material relationships – will apply to these Guard Bands as well. *See* Implementation of the Commercial Spectrum Enhancement Act and Modernization of the Commission's Competitive Bidding Rules and Procedures, WT Docket No. 05-211, *Second Report and Order and Second Further Notice of Proposed Rulemaking*, 21 FCC Rcd 4753 (2006) (revising the Commission's Part 1 rules to include certain "material relationships" as factors in determining designated entity eligibility); Implementation of the Commercial Spectrum Enhancement Act and Modernization of the Commission's Competitive Bidding Rules and Procedures, WT Docket No. 05-211, *Order on Reconsideration of the Second Report*, 21 FCC Rcd 6703, 6716 ¶ 30 (2006) (exempting services not subject to secondary markets leasing from the revised "material relationships" rules).

Managers regime or the Secondary Markets spectrum leasing rules,[391] we conclude that it is unnecessary to also allow licensees the ability to choose between the two leasing models, and thus replace the Guard Band Manager leasing regime with the Secondary Markets spectrum leasing policies and rules. Application of the Secondary Markets rules to all 700 MHz Guard Bands licensees will provide significant additional flexibility and ensure that these licensees are treated similarly to other Wireless Radio Services holding exclusive use licenses and leasing spectrum usage rights.

b. Use and Operational Flexibility

163. In addition to providing licensees and other spectrum users additional flexibility provided under our general Secondary Markets spectrum leasing rules, we conclude that other changes to the 700 MHz Guard Bands rules should be made to promote more efficient and effective use of this spectrum. Commenters argue that certain 700 MHz Guard Bands rules deter licensees and potential spectrum users from entering into spectrum user agreements. The BOP proponents argue that the band manager model imposes a number of requirements—the specification that a Guard Band licensee acts only as a spectrum broker and not a service provider, the requirement that the predominant amount of a licensee's spectrum must be leased to non-affiliates, and restrictions on the conditions that a licensee may impose on lessees and end users—that significantly restrict the use of Guard Bands spectrum.[392] Similarly, Arcadian Networks (Arcadian) – an existing Guard Band lessee – argues that the restrictions against Guard Band Managers using their spectrum as system operators, and leasing their spectrum to affiliates, should be eliminated because the restrictions have stifled the market for 700 MHz Guard Bands spectrum.[393] According to Arcadian, the Secondary Markets spectrum leasing rules have proven more successful without such restrictions.[394]

164. *Band Manager Status*. In creating the 700 MHz Guard Bands service, the Commission designated Guard Band Managers as a new class of commercial licensee engaged solely in leasing spectrum to third parties.[395] We agree with commenters that we should re-evaluate our decision to limit the ability of licensees to act as service providers. The band manager rules and policies that specify that a Guard Band licensee may only act as a spectrum manager unduly restrict the ability of parties to use the spectrum, and may preclude the deployment of services that might otherwise be offered. Depending upon the circumstances, it may be that the Guard Band licensee itself is best positioned to make maximum use of the Guard Bands spectrum. Precluding a licensee from operating as a service provider may prevent access by parties that could make actual use of the band, and hinders, rather than facilitates, the efficient use of the spectrum. We believe that, as long as a 700 MHz Guard Band licensee can fulfill its primary function of effectively managing its licensed spectrum and ensuring that 700 MHz public safety operations are protected from interference, there is little reason to preclude that licensee from also providing service. Accordingly, we will revise our rules to permit licensees to operate as wireless service providers. To the extent that a licensee chooses to provide service, we require that the licensee update their license information if they plan to switch their regulatory status,[396] and we note that licensees will be responsible for meeting all other obligations relating to their change in status.[397]

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[391] NPSTC opposes the ability for the Guard Band licensee to choose between regulatory models, stating that this can dilute responsibility. NPSTC Comments in WT Docket No. 06-169 at 11.

[392] Access Spectrum/Pegasus Comments in WT Docket No. 06-169, App. at 2.

[393] Arcadian Networks Reply Comments in WT Docket No. 06-169 at 4.

[394] *Id.*

[395] *Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5312-5313 ¶¶ 26-27.

[396] Licensees will be required to update their status pursuant to Section 27.10(d) of the Commission's rules.

[397] For example, such obligations could include interconnection, numbering and universal service.

165. *Restrictions on Leasing to Affiliates.* Similarly, we conclude that it is in the public interest to remove the current restriction precluding any licensee from leasing more than 49.9 percent of its licensed spectrum to affiliates. As in the case of the policy precluding licensees from providing service, we believe that our rule requiring that licensees lease the predominant amount of their spectrum to non-affiliates prevents entities from maximizing use of the spectrum, and hinders the provision of service to end users. This restriction also may prevent licensees and lessees from taking advantage of new technologies. The BOP proponents argue that since a band manager must lease the majority of its spectrum to unaffiliated parties, any band manager affiliate would not be able to deploy even a single broadband channel because it would require the majority of the spectrum.[398] To the extent that we determine that broadband deployment is permissible in one or both of the 700 MHz Guard Bands, the Commission's restrictions that prevent Guard Band Managers from providing service or from leasing any more than 49.9 percent of its license to affiliates would hinder the ability of Guard Band licensees or their affiliates to deploy such service. Restrictions regarding use by the licensee or its affiliates may prevent entities from optimizing the use of the spectrum or entering into Secondary Markets spectrum leasing agreements with adjacent licensees that are not similarly restricted. Accordingly, we eliminate this restriction.

166. *Other Lease Restrictions*. Under existing policies, 700 MHz Guard Band licensees are prohibited from imposing unduly restrictive requirements in the spectrum user agreements regarding access to, and use of, spectrum.[399] In adopting these band manager rules, the Commission noted that Guard Band Managers would be afforded a considerable amount of latitude in determining the most efficient way to manage their spectrum.[400] The Commission concluded, however, that it was necessary to ensure that band managers did not impose unreasonable terms and conditions on lessees or end users.[401] Although these restrictions were aimed at ensuring that band managers do not engage in unreasonable practices, as the BOP proponents point out, the existing rules may adversely affect the ability of Guard Band licensees to negotiate with spectrum users regarding otherwise standard lease provisions, such as mandating the use of a particular technology, that other wireless licensees are permitted to negotiate.[402] We note that our Secondary Markets spectrum leasing rules do not have similar restrictions and our rules generally permit parties to determine the precise terms and provisions of their spectrum lease agreements.[403] As noted above, we are adopting for the Guard Bands the same spectrum leasing policies set forth in the Secondary Markets proceeding. We believe that these policies provide sufficient incentives for licensees to lease spectrum usage rights, while also providing licensees with the ability to establish appropriate operational guidelines with spectrum lessees that protect public safety licensees from interference.[404] As such, we eliminate this requirement.

167. *Coordination Requirement*. The Commission requires Guard Band Managers to notify public safety frequency coordinators in the 700 MHz Public Safety Band, as well as adjacent-area Guard Band Managers, of the technical parameters of any site constructed in the Guard Band Manager's license area. Guard Band Managers must provide such identifying information as the frequencies coordinated, antenna height and location, and effective radiated power.[405] The BOP proponents argue that the current

[398] Access Spectrum/Pegasus Comments in WT Docket No. 06-169, App. at 2.

[399] 47 C.F.R.§§ 27.602(g), 27.603(b).

[400] *Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5327-5328 ¶¶ 64-65.

[401] *Id*. at 5328 ¶¶ 64-65.

[402] Access Spectrum/Pegasus Comments in WT Docket No. 06-169, App. at 2.

[403] *Secondary Markets First Report and Order*, 18 FCC Rcd at 20637 ¶ 70.

[404] We note that we may still consider complaints filed against a Guard Band Manager for unreasonably denying access to its spectrum pursuant to our authority under Sections 308(b) and 309(d) of the Communications Act.

[405] 47 C.F.R. § 27.601(d)(1).

rules that apply to the existing Guard Bands A and B Blocks should be replaced with the less burdensome coordination requirements that exist for the C and D Blocks.[406] They argue that under the BOP, there will be no commercial operations directly adjacent to public safety narrowband channels, and thus heightened coordination requirements are unnecessary.[407]

168. We do not change the coordination requirements for Guard Band licensees currently contained in section 27.601(d)(1) of our rules. We note that the Commission imposed coordination requirements to minimize the potential for interference, and we reiterate that the primary purpose of the Guard Bands is to prevent interference to adjacent public safety operations. Absent information indicating that our coordination requirements do not serve to prevent interference, we conclude that we should retain the coordination requirements set forth in the rule. Given that we are adopting the Secondary Markets spectrum leasing rules for the Guard Band service, we clarify how these coordination requirements will work in the context of spectrum leasing arrangements. To the extent a licensee enters into a spectrum manager lease arrangement, it retains *de facto* control of the spectrum and primary responsibility for ensuring compliance with the rules.[408] Accordingly, for this type of spectrum leasing arrangement, the licensee is required to carry out these coordination responsibilities.[409] If, however, a licensee enters into a *de facto* transfer leasing arrangement, the coordination and notification tasks set forth in section 27.601 of our rules (as well as other responsibilities associated with *de facto* control) are, upon Commission approval, transferred from the licensee to the spectrum lessee. In this latter type of arrangement, we note that although the spectrum lessee becomes primarily responsible for complying with the required frequency coordination responsibilities under the license authorization, we will continue to hold licensees responsible for the failure of a spectrum lessee to comply with the Commission's frequency coordination requirements.[410]

IV. FURTHER NOTICE OF PROPOSED RULEMAKING

A. Introduction

169. In the Report and Order, above, we provide increased flexibility to 700 MHz Commercial Services Band licensees to facilitate the development of new and innovative services in this spectrum, while also advancing the Commission's goals of promoting spectrum access and the provision of service in rural areas. In addition, we provide additional flexibility to 700 MHz Guard Band licensees to enable them to make better use of the Guard Bands spectrum.

170. In this Further Notice, we reach tentative conclusions and make proposals with respect to a limited number of key issues affecting the 700 MHz Band that affect all three of these proceedings. In addition, we seek comment on the "Public Safety Broadband Deployment Plan" proposal submitted very

[406] Access Spectrum/Pegasus Comments in WT Docket No. 06-169, App. at 6. The existing coordination requirements for Guard Band Managers include notification to public safety frequency coordinators and adjacent area Guard Band Managers of several specified technical details within one business day after either the coordination of a station or the filing of an application with the Commission. *See* 47 C.F.R. § 27.601(d). Additionally, operation is restricted until at least 10 business days after the required notification, and in the event of harmful interference, the Commission may impose restrictions on the operations by involved parties. *Id.* In contrast, the coordination requirement that applies to the Upper 700 MHz C and D Blocks consists of providing a description of the proposed facility, prior to commencing operation, to a public safety coordinator when the proposed facility is within 500 meters of existing or planned public safety base station receivers. *See* 47 C.F.R. § 27.303.

[407] Access Spectrum/Pegasus Comments in WT Docket No. 06-169, App. at 6.

[408] *See* 47 C.F.R. § 1.9020(a)-(b).

[409] *See* 47 C.F.R. § 1.9010 (if licensee retains *de facto* control of the spectrum, it is responsible for resolving all interference-related matters, including conflicts between its spectrum lessee and any other licensee).

[410] *See* 47 C.F.R. § 1.9030(a)-(b).

recently by Frontline, which if adopted in some form potentially could affect decisions in all three proceedings. In seeking additional comment in this Further Notice, we stress that we intend to rely on the extensive record that has already been developed in these proceedings to inform our ultimate decisions.

B. Discussion

171. This Further Notice encompasses issues pertinent to all three of our 700 MHz proceedings, as well as to Frontline's proposal. First, based on the record developed in connection with these proceedings, we seek comment on various band plan proposals for licensing the unauctioned commercial spectrum in the 700 MHz Band on a CMA, EA, and REAG basis, and for reconfiguring the size and location of some of the spectrum blocks associated with these commercial licenses.

172. Second, we propose to adopt performance requirements for the unauctioned 700 MHz Commercial Services licenses based on geographic benchmarks. These proposed requirements are intended be more stringent than the current "substantial service" requirements.

173. Third, we tentatively conclude that we can adopt neither the BOP, nor the proposals to reallocate the returned B Block licenses to critical infrastructure industries (CII) or public safety entities, because we do not have the statutory authority to adopt key components of the proposals. Irrespective of the lack of statutory authority, we also tentatively conclude that the BOP and CII proposals would not be in the public interest, because of the manner in which they propose to assign commercial licenses outside of a competitive bidding context, and because they could introduce an increased possibility of interference in the proposed assignment of licenses. However, we also seek comment on an alternative proposal for modification of the Guard Bands in the Upper 700 MHz Band recently submitted by parties that have supported the BOP.

174. Fourth, we tentatively conclude to redesignate the public safety wideband spectrum for broadband use consistent with a nationwide interoperability standard, and to prohibit wideband operations on a going forward basis. We also tentatively conclude that should we adopt this broadband approach, we should revise the band plan for the 700 MHz Public Safety Band by consolidating the existing narrowband channels to the upper half of the Public Safety block, and designating the lower half of the Public Safety block for nationwide interoperable broadband communications. Given these tentative conclusions, we further seek comment on a limited set of issues that would need to be resolved in order to effectuate the reconfiguration.

175. Finally, we seek comment on the Frontline proposal. We ask for comment on how this proposal interrelates with our proposals, tentative conclusions, and other issues.

1. 700 MHz Band Commercial Services

176. In the Report and Order, we decided to adopt a mix of geographic licensing areas for the 700 MHz Band in order to enhance access to spectrum by a variety of potential licensees. In particular, we revised the geographic areas to consist of CMAs, EAs, and REAGs, which will replace the unauctioned EAG-sized license areas in the 700 MHz Band. We concluded that by providing a mix of CMA, EA, and REAG licenses in the 700 MHz Commercial Services spectrum, we provide a more balanced set of initial licensing opportunities that provide an effective means of access to spectrum especially in rural areas, while effectively meeting other Commission goals. In this Further Notice, we seek comment on different band plan proposals for the use of CMAs, EAs and REAGs in the Lower 700 MHz Band and the Upper 700 MHz Commercial Services Band.

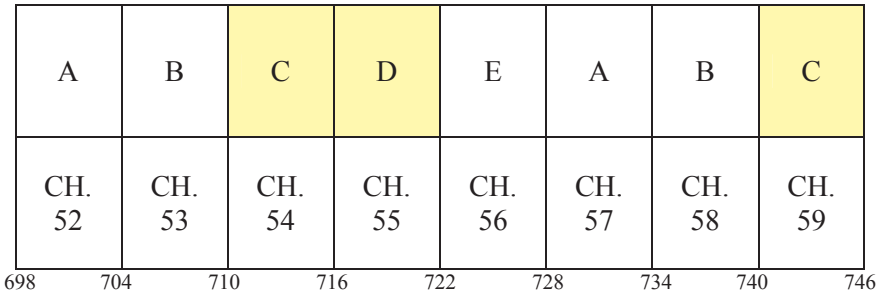
a. Lower 700 MHz Band

177. Background. In the existing band plan for the Lower 700 MHz Band, the 48 megahertz of spectrum is divided into five blocks: three 12-megahertz paired blocks, each consisting of two 6-

megahertz segments (Blocks A, B, and C); and two 6-meghahertz unpaired blocks (Blocks D and E).[411] In the *700 MHz Commercial Services Notice*, we suggested that the current band plan for the Lower 700 MHz Band should be retained, but we nevertheless sought comment on potential changes to the size of the spectrum blocks in the Lower 700 MHz Band.[412]

178. Discussion. With regard to the Lower 700 MHz Band, we propose not to alter the spectrum blocks as currently sized and aligned.[413] The spectrum comprising Lower 700 MHz Band Blocks C and D, consisting of 18 of the 48 megahertz in that band, has already been auctioned, and the remainder of the Lower 700 MHz Band is subject to a statutorily imposed auction schedule.[414] We also note that a number of parties who submitted comments in response to the *700 MHz Commercial Services Notice* supported retaining the current size of spectrum blocks in the Lower 700 MHz Band, including Blocks C and D of that Band.[415] We therefore propose not to change the bandwidth of this licensed spectrum, but seek further comment on this proposal.

FIGURE 5 – PROPOSED RECONFIGURATION OF LOWER 700 MHZ BAND



Block	Frequencies	Bandwidth	Pairing	Area Type	Licenses
A	698-704, 728-734	12 MHz	2 x 6 MHz	EA	176
B	704-710, 734-740	12 MHz	2 x 6 MHz	CMA	734
C	710-716, 740-746	12 MHz	2 x 6 MHz	CMA	734*
D	716-722	6 MHz	unpaired	EAG	6*
E	722-728	6 MHz	unpaired	REAG	12

*Blocks have been auctioned.

179. We propose that the unpaired spectrum in the E Block of the Lower 700 MHz Band continue to be licensed in large regional areas, namely, on an REAG basis. As the Commission has found before with respect to the 700 MHz band and to the AWS-1 band, and as supported by several commenters in this record, licenses based on large geographic areas offer certain benefits, such as allowing licensees to more easily take advantage of economies of scale to develop new technologies and services. We seek comment on whether this proposal would serve the public interest.

[411] *See 700 MHz Commercial Services Notice*, 21 FCC Rcd at 9354 ¶ 14; *Lower 700 MHz Band Report and Order*, 17 FCC Rcd at 1055 ¶ 80.

[412] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9369 ¶ 49.

[413] In the *700 MHz Commercial Services Notice*, we stated that we believed that the current band plan should be retained for the Lower 700 MHz Band. *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9369 ¶ 49.

[414] *See Auction 44 Public Notice; Auction 49 Public Notice; Auction 60 Public Notice; Section II.A., supra.*

[415] *See* Balanced Consensus Plan. The signatories to the Balanced Consensus Plan include some of the original and/or current licensees in the C Block of the Lower 700 MHz Band, *e.g.*, Aloha, Blooston, C&W, Corr, Union, and Vermont Telephone Co.

180. We propose to adopt EAs as the geographic area for licenses in the A Block in the Lower 700 MHz Band. We make this proposal because, as explained above, there is significant support in the record for a mix of licenses, including EA licenses. Given the potential public interest benefits of licensing an additional spectrum block over a smaller geographic service area, we seek comment on whether it would serve the public interest to license the A Block on an EA basis.

181. Likewise, we propose that CMAs be adopted as the geographic service area for licenses in the B Block of the Lower 700 MHz Band, which results in the availability of 734 CMA licenses in this block as opposed to 6 EAG licenses. In seeking comment on this proposal, we note that certain commenters specifically favor the B Block for reassignment on the basis of CMAs.[416] We also note that, if we assign CMAs in the Lower 700 MHz Band B Block, licensees will be afforded the opportunity to combine the B Block licenses with licenses in the adjacent C Block, which already have been licensed over CMAs (MSAs/RSAs).[417] Accordingly, we seek comment on whether converting the B Block to CMA licensing could create opportunities for existing licensees in the C Block of the Lower 700 MHz Band, many of which include small or rural service providers, to create a larger block by acquiring another similarly sized spectrum block in the auction.

b. Upper 700 MHz Commercial Services Band

182. Background. Under the existing band plan for the Upper 700 MHz Commercial Services Band, 30 megahertz of spectrum is divided into two blocks: (1) a 10-megahertz paired block consisting of two 5-megahertz segments (C Block); and (2) a 20-megahertz paired block consisting of two 10-megahertz segments (D Block).[418] In the *700 MHz Commercial Services Notice*, we sought comment on the band plan and whether we should reconfigure the size of these spectrum blocks.[419] We specifically sought comment on whether the D Block, currently established as a 20-megahertz block, should be divided into two or more blocks.[420]

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[416] *See* MilkyWay Comments in WT Docket No. 06-150 at 1; RCA Comments in WT Docket No. 06-150 at 1; RCA Reply Comments in WT Docket No. 06-150 at 1; RTG Comments in WT Docket No. 06-150 at 7 (supports B Block and one other block over CMAs); RTG Reply Comments in WT Docket No. 06-150 at 3 (discussing support for Balanced Consensus Plan and stressing support for B Block of the Lower 700 MHz Band to be licensed over CMAs); MetroPCS Comments in WT Docket No. 06-150 at 13; Leap Comments in WT Docket No. 06-150 at 5; Blooston Comments in WT Docket No. 06-150 at 3; Corr Reply Comments in WT Docket No. 06-150 at 4; Aloha Comments in WT Docket No. 06-150 at 7 (Aloha has no strong preference for which 700 MHz Band (Upper or Lower) should include CMA allocations of at least 10-12 MHz, but believes that it would be more efficient and less disruptive simply to revise licensing boundaries for the existing B Block in the Lower 700 MHz Band). *See also* Comments of Rural Telecommunications Group, Inc. in Support of Modification of License Area Sizes for 700 MHz Spectrum, Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59), GN Docket No. 01-74, 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, Rural Telecommunications Group, Inc. (filed Sept. 27, 2005) (requesting that MSA/RSA licenses be provided for the Lower 700 MHz Band B Block and Upper 700 MHz Band C Block, totaling 22 megahertz of spectrum).

[417] *See* Corr Reply Comments in WT Docket No. 06-150 at 4; Aloha Comments in WT Docket No. 06-150 at 7; Blooston Comments in WT Docket No. 06-150 at 3.

[418] *See 700 MHz Commercial Services Notice*, 21 FCC Rcd at 9352 ¶ 11; *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 491 ¶ 35.

[419] *See 700 MHz Commercial Services Notice*, 21 FCC Rcd at 9369-73 ¶¶ 49-59. We note that this portion of the notice addressed whether changes to the Commission's competitive bidding rules should be made in connection with the aggregation of spectrum, and also asked for comment concerning a "two-sided auction." *Id.* at 9372-73 ¶¶ 56-59. The competitive bidding rules, and the two-sided auction mechanism, are addressed in the Report and Order in Section III.A.2.b, above.

[420] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9369 ¶ 49, 9370-71 ¶ 53.

183. Discussion. The following proposals would make several changes to the size and location of the spectrum blocks in the band plan currently associated with the Upper 700 MHz Commercial Services Band and the 700 MHz Guard Bands, as well as the geographic area basis on which the various blocks should be licensed. We consider these changes in large part because we are tentatively concluding to consolidate the proposed broadband portion of the 700 MHz Public Safety Band at the lower portion of the Public Safety spectrum, as discussed below, while consolidating narrowband operations to the upper portion of the Public Safety spectrum. If the Commission adopts such a proposal, the adjacency of Public Safety broadband spectrum to commercial broadband spectrum in the Upper 700 MHz Band may make it possible to make adjustments to the Guard Bands spectrum, rendering additional spectrum available for commercial use. Under one scenario, the existing Guard Band B block would be eliminated entirely, and the spectrum subsumed within the commercial spectrum in the Upper 700 MHz Band, resulting in a total of 34 megahertz available for auction. Under another scenario, the Guard Band B Block would be reduced from four to two megahertz, and the location of both the Guard Band A and B blocks would be shifted within the Upper 700 MHz Band. We discuss the proposals below on this basis.

(i) Proposals Based on Elimination of the Guard Band B Block

184. *Elimination of the Guard Band B Block.* As noted, adoption of our proposal to consolidate the broadband Public Safety spectrum in the lower portion of the 700 MHz Public Safety Band may mean that the four megahertz of spectrum in the existing Guard Band B Block is no longer needed for use as a guard band for the adjacent 700 MHz public safety users, and may be consolidated with the rest of the commercial spectrum for more efficient and effective use. The following proposals would reconfigure the band plan associated with the 30 megahertz of commercial spectrum in the Upper 700 MHz Commercial Services Band and the four megahertz of commercial spectrum in the 700 MHz Guard Band B Block, providing 34 megahertz of commercial spectrum in the Upper 700 MHz Band available for auction throughout most of the nation. These proposals also contemplate the creation of a 12 megahertz paired block of commercial spectrum (758-764 MHz/788-794 MHz) adjacent to the 700 MHz Public Safety Band (hereinafter the "adjacent block").

185. In addition to providing additional spectrum for wireless broadband services, the new adjacent block could help facilitate the transition to wireless broadband for public safety in its 700 MHz spectrum. Under these proposals, the adjacent block auction winner(s) would have to pay the costs of consolidating the 700 MHz Public Safety spectrum with the narrowband allocation at the upper end and the broadband allocation at the lower end. We seek comment on whether the adjacent block auction winner(s) should, as a license condition, be required to post a letter of credit or place certain funds in escrow to ensure the availability of funds to fulfill this obligation. We also seek comment on how to establish the amount and mechanism for implementing such an obligation. For example, how should we assess the responsibility for relocating public safety operations if there are multiple adjacent block auction winners?

186. As mentioned above, the Commission currently holds 42 of the 52 Guard Band B Block licenses. These proposals would grandfather the remaining B Block licenses by allowing them to continue to operate in this spectrum under current rules. We seek comment on whether we should permit existing Guard Band B Block licensees to operate pursuant to the current technical specifications for the Guard Band B Block, which contemplate that Guard Band B Block licensees operate high-site, high-power communications.[421] We seek comment on whether there would be potential for harmful

[421] We note, for example, that Radiofone objects to any modification to its existing Guard Band B Block license in the Gulf of Mexico. Radiofone Comments in WT Docket No. 06-169 at 2. Radiofone does not assert that it is currently engaged in operations. Additionally, we note that the Commission requires all Guard Band Managers to file annual reports by March 1 of each year in their license term through January 1, 2015. *See 700 MHz Guard Bands Second Report and Order,* 15 FCC Rcd at 5332-33 ¶¶ 75-80. Radiofone's March 2007 Band Manager Report does not cite any Spectrum Use Agreement with Radiofone. We also note that within the context of the BOP (continued….)

interference to new, co-channel adjacent block licensees, or to public safety broadband operations, if we adopt our proposals for the 700 MHz Public Safety spectrum. Similarly, if we eliminate the existing Guard Band B block, resulting in a 12-megahertz 700 MHz commercial block immediately adjacent to the 700 MHz Public Safety block, we seek comment on whether any technical or operational restrictions or limitations would need to be adopted to protect against interference to the proposed broadband public safety operations.

187. In addition, we seek comment on whether the Commission could facilitate clearing of the existing Guard Band B Block licensees by allowing the incumbents to include their licenses in the auction inventory in a "two-sided" auction,[422] which would make available licenses currently held by incumbent Guard Band B Block licensees. Commenters should address details of how the existing licenses could be incorporated into the auction, and how the incumbent licensees could be compensated for "selling" a license. Are there other ways we should consider transitioning the existing Guard Band B Block licensees to the proposed band plan?

188. We note that a reconfiguration of the band plan for the 700 MHz Public Safety Band, as discussed below, may result in the relocated narrowband channels being blocked by existing Canadian TV broadcasters in certain border areas.[423] Although the Canadian government has agreed to clear broadcasters from TV channels 63 and 68, there is as yet no such agreement for TV channels 64 and 69, where the narrowband channels would rest in their entirety after the proposed band plan reconfiguration.[424] As a temporary solution to this problem, we are also seeking comment below in this Further Notice on whether to allow, in border areas, narrowband voice communications within the 1 megahertz internal guard band that is designed (under a band reconfiguration) to protect the narrowband channels from the proposed broadband channels.[425] The result of this option would be a corresponding loss of available spectrum for broadband communications, since a 1 megahertz internal guard band would still be necessary to protect the shifted narrowband channels from public safety broadband operations.

189. As a result, under these proposals, we would impose a license condition upon the adjacent block licensee, creating a temporary easement into the adjacent block to facilitate the full 5 megahertz bandwidth of the proposed public safety broadband allocation under a band reconfiguration. This easement would terminate upon transition of the border broadcast operations and the subsequent transition of any relevant public safety users operating on the easement. We also seek comment on whether this easement should be triggered in all adjacent block licenses that share a border with Canada or Mexico, within each licensee's entire service area or within the portion that is within range of the conflicting broadcaster's service contour. In such a circumstance, should the adjacent block licensee be allowed to operate on a secondary basis within the easement spectrum, or not at all? Finally, we seek comment on whether we have the authority to impose this license condition on new adjacent block licensees.

190. Proposal 1. In the first proposal, we would establish a new 22-megahertz C Block (comprised of two 11-megahertz blocks of paired spectrum), and a new 12-megahertz D Block (comprised of two 6-megahertz blocks of paired spectrum). Both the C and D Blocks in the Upper 700 MHz Band would be licensed on a REAG basis. A chart illustrating this proposal is set forth below.

(Continued from previous page)
proposal, the BOP proponents asserted that they would agree to work around the Radiofone service area in implementing the BOP. Access Spectrum/Pegasus Reply Comments in WT Docket No. 06-169 at 21, 22.

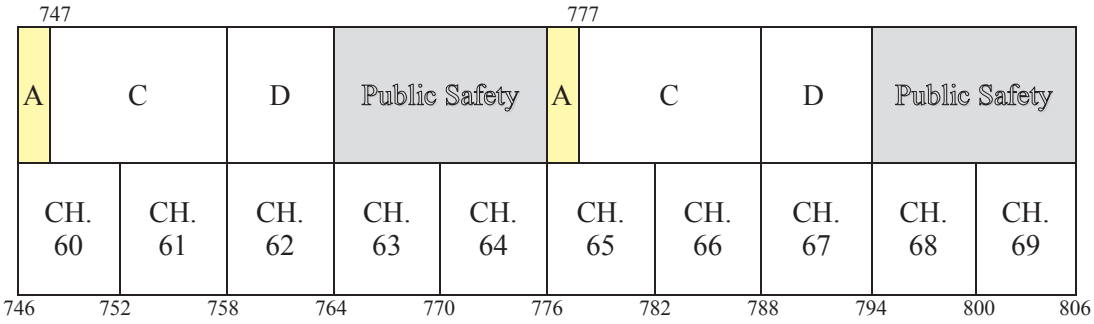
[422] *See, e.g., supra* Section III.A.2.b.(i) (describing one potential type of "two-sided" auction),

[423] *See 700 MHz Guard Bands Notice*, 21 FCC Rcd at 10432 ¶ 45.

[424] *See* Access Spectrum/Pegasus Comments in WT Docket No. 06-169 at 17.

[425] *See infra* Section IV.B.3.b.

FIGURE 6 – FIRST PROPOSAL FOR RECONFIGURATION OF UPPER 700 MHZ BAND



Block	Frequencies	Bandwidth	Pairing	Area Type	Licenses
A	746-747, 776-777	2 MHz	2 x 1 MHz	MEA	52*
B	*762-764, 792-794*	*4 MHz*	*2 x 2 MHz*	*MEA*	*52*‡*
C	747-758, 777-788	22 MHz	2 x 11 MHz	REAG	12
D	758-764, 788-794	12 MHz	2 x 6 MHz	REAG	12

*Blocks have been auctioned
‡42 of 52 licenses nationwide held by the Commission, *remaining licenses potentially grandfathered*

191. Creating a paired, 22-megahertz block of spectrum in a newly configured C Block would be responsive to the desires of some potential new entrants, as well as many other commenters who favored a large 20 megahertz block of spectrum in the Upper 700 MHz Band.[426] For example, the Coalition for 4G in America has specifically advocated that we adopt a paired, 22-megahertz license in the Upper 700 MHz Band to support new entry.[427] Under this proposal, licensees could purchase licenses in these contiguous blocks to create 34-megahertz licenses, which could provide unique opportunities to offer broadband services. Further, with regard to the larger 22-megahertz C Block REAG licenses, we propose, consistent with the desires expressed by the Coalition for 4G America,[428] to auction this block on a combinatorial basis, which would further facilitate the aggregation of licenses at auction to create a nationwide footprint. We seek comment on this proposal.

192. Proposal 2. This proposed band plan contemplates licensing 34 megahertz of commercial spectrum in the Upper 700 MHz Band using a mix of REAG, EA and CMA geographic licensing areas. In conjunction with the proposed mix of geographic licensing areas in the Lower 700 MHz Band,[429] this proposal seeks to approximate the balanced mix of geographic licensing sizes adopted by the Commission in the recent AWS-1 auction. It is intended to provide opportunities for small providers in rural areas, as well as new entrants seeking to establish a nationwide wireless footprint, and to afford

[426] *See, e.g.*, DIRECTV/EchoStar Reply Comments in WT Docket No. 06-150 at 7-8 (dividing the 20-megahertz D Block would artificially limit the types of services available in the 700 MHz Band); Motorola Comments in WT Docket No. 06-150 at 5 (generally recommending that commercial spectrum be licensed in wider spectrum blocks); Qualcomm Comments at 18 (the D Block should remain intact because certain technologies require 20-megahertz bandwidth for fastest possible data transmission); Verizon Reply Comments in WT Docket No. 06-150 at 6-7 (asserts that a 20-megahertz paired license should be retained); CTIA Comments in WT Docket No. 06-150 at 6-7 (supports maintaining at least 20 megahertz of paired spectrum in the Upper 700 MHz Band D Block).

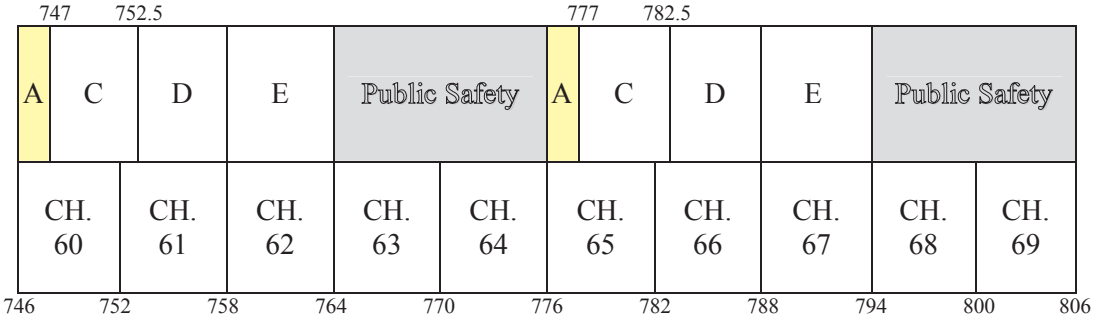
[427] *See* Letter from Ruth Milkman, counsel for Access Spectrum L.L.C., and on behalf of the Coalition for 4G in America, to Marlene Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 96-86, 06-150 and 06-169 (filed Apr. 4, 2007) ("Coalition for 4G in America *Ex Parte* in WT Docket Nos. 96-86, 06-150 and 06-169").

[428] *See* Coalition for 4G in America *Ex Parte* in WT Docket Nos. 96-86, 06-150 and 06-169at 2.

[429] *See supra* Section IV.B.1.a.

bidders flexibility to aggregate smaller markets to create either a nationwide market, or large regional or other customized markets.

FIGURE 7 – SECOND PROPOSAL FOR RECONFIGURATION OF UPPER 700 MHZ BAND



Block	Frequencies	Bandwidth	Pairing	Area Type	Licenses
A	762-763, 792-793	2 MHz	2 x 1 MHz	MEA	52*
B	*762-764, 792-794*	*4 MHz*	*2 x 2 MHz*	*MEA*	*52*‡*
C	747-752.5, 777-782.5	11 MHz	2 x 5.5 MHz	CMA or EA	734 or 176
D	752.5-758, 782.5-788	11 MHz	2 x 5.5 MHz	EA	176
E	758-764, 788-794	12 MHz	2 x 6 MHz	REAG	12

*Blocks have been auctioned.

‡42 of 52 licenses nationwide held by FCC, *remaining licenses potentially grandfathered.*

193. Specifically, this proposal would create two 11-megahertz licenses (each composed of two 5.5-megahertz paired blocks) – the C and D blocks – and a 12-megahertz E block (composed of two 6-megahertz paired blocks) similar to the block that is the subject of the Frontline proposal discussed below. Under this proposal, we would license the C and D Blocks both on an EA basis, or the C Block on a CMA basis and the D Block on an EA basis. We would license the E Block on a REAG basis. This band plan is not tied to adoption of either the Broadband Optimization Plan or the recently filed alternative plan. We seek specific comment on whether this proposal provides interested bidders with the flexibility to aggregate smaller markets to create either a nationwide market, large regional or other customized markets, as advocated by a broad array of parties.[430] Also, we seek comment as to whether this band plan would offer some potential new entrants an opportunity to provide broadband services.[431] Finally, we seek comment on whether to consider licensing these spectrum blocks set forth in this proposal on a different geographic basis.

(ii) Proposals Based on Modified 700 MHz Guard Bands

194. *Modification of the 700 MHz Guard Bands.* The following three proposals are premised on: 1) a shift of the Guard Band A Block from 746-747/776-777 MHz to 762-763/792-793 MHz; 2) a reduction of the Guard Band B Block from 4 megahertz to 2 megahertz; and 3) a shift of the Guard Band B Block from 762-764/792-794 MHz to 775-776 MHz/805-806 MHz. These actions would make 32 megahertz of spectrum in the Upper 700 MHz Band (746-762 MHz/776-792 MHz) available for

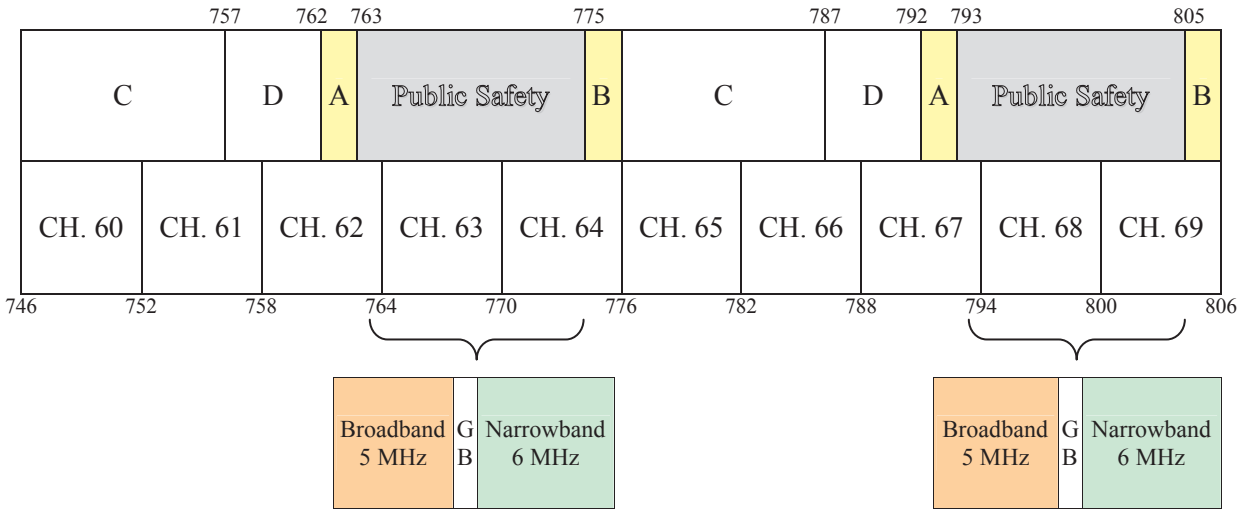
[430] *See* Balanced Consensus Plan Comments in WT Docket No. 06-150 at Attachment; T-Mobile Reply Comments in WT Docket No. 06-150 at 4; Vermont Department of Public Service *et al*. Reply Comments in WT Docket No. 06-150 at 7; U.S. Cellular Comments in WT Docket No. 06-150 at 6-7; Leap Reply Comments in WT Docket No. 06-150 at 2; RTG Comments in WT Docket No. 06-150 at 5.

[431] Coalition for 4G in America *Ex Parte* in WT Docket Nos. 96-86, 06-150 and 06-169.

commercial licensing.

195. Proposal 3. Access Spectrum/Pegasus have submitted an alternative proposal to the Commission for modification of the Guard Bands in the Upper 700 MHz Band, which could also impact the configuration of the Upper 700 MHz Band.[432] According to Access Spectrum/Pegasus, its alternative plan would permit the auction of 32 megahertz of commercial broadband spectrum but leave the size of the public safety allocation unchanged. They also argue that it would accommodate the consolidation of the public safety narrowband spectrum by addressing the Canadian interference issues and public safety relocation costs, discussed above. Finally, by proposing an 11 megahertz block immediately adjacent to the Lower 700 MHz C Block, Access Spectrum/Pegasus assert that the alternative proposal addresses interference concerns on the record by moving the Guard Band A Block.

FIGURE 8 – ACCESS SPECTRUM/PEGASUS ALTERNATIVE PROPOSAL



196. Access Spectrum/Pegasus propose to "shift" down the 700 MHz Public Safety Band by 1 megahertz to remedy potential narrowband interference issues with Canada and Mexico, if the Commission determines that a consolidation of the narrowband channels to the top of the public safety allocation is in the public interest. In implementing the "shift," the current A Block at 746-747 MHz and 776-777 MHz would be displaced and relocated, and the Upper 700 MHz C Block would become a 22-megahertz block (comprised of two 11-megahertz paired blocks) through redistribution of a total of 2 megahertz of current B Block spectrum. According to Access Spectrum/Pegasus, a 22-megahertz C Block would address potential interference concerns and would be responsive to record support for an 11-megahertz paired block. The alternative plan proposes that the D Block would be a 10-megahertz block, (comprised of two 5-megahertz paired blocks) and that the newly configured B Block would be reduced from a total of 4 megahertz to 2 megahertz. In addition, with the displacement of the A Block, Access Spectrum/Pegasus propose that the Commission modify the licenses of the incumbent A Block licensees, essentially "repacking" the newly configured A Block with all current A and B Block licensees.

197. Access Spectrum/Pegasus propose to work with the Commission to ensure that all current A Block and B Block licensees can be accommodated in the newly configured A Block.[433] Subject to

[432] *See* Letter from Ruth Milkman, counsel to Access Spectrum, LLC and Kathleen Wallman, adviser to Pegasus Communications Corporation, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 06-169, 06-150 and 96-86 (filed Apr. 18, 2007) (Access Spectrum/Pegasus Apr. 18, 2007 *Ex Parte*).

[433] The Access Spectrum/Pegasus Alternative proposal does not address how the Commission should license the new B Block Guard Band that it proposes should now be located at 775-776 MHz, paired with 805-806 MHz.

certain conditions, Access Spectrum/Pegasus would also agree to pay for the transition of public safety narrowband operations in the band. Their proposed conditions include: (a) the newly configured A Block sharing the same service rules as the Upper 700 MHz C and D Blocks, including application of our Secondary Markets rules; and (b) the Commission removing the cellular architecture restrictions on the newly configured A Block.[434]

198. We seek comment on Access Spectrum/Pegasus' alternative proposal and its likely effects on both the commercial and public safety users in the 700 MHz Band. We also seek comment on whether, and to what extent, the Commission should: (a) adopt certain, but not all, elements of the Access Spectrum/Pegasus alternative proposal; (b) modify any elements of the proposal, adopt any additional requirements, or adopt any alternative requirements to achieve the same or similar public interest goals; and (c) consider alternative approaches to encourage public-private partnerships for sharing spectrum between public safety users and commercial licensees in the 700 MHz Band.

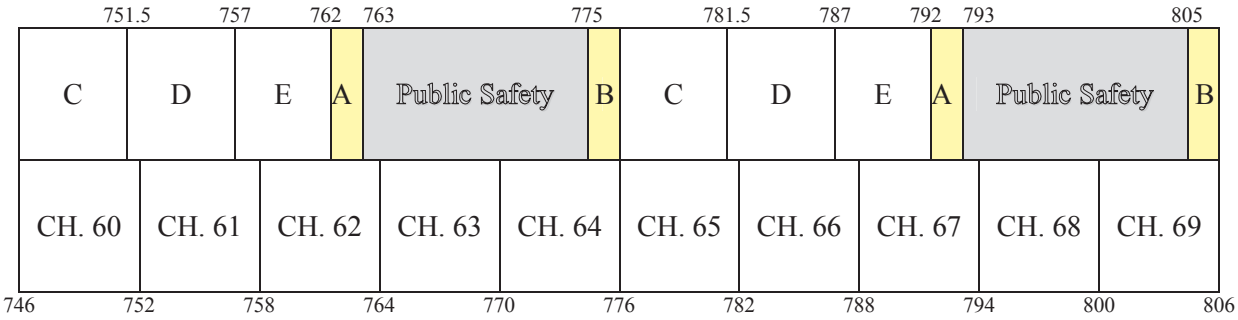
199. The Access Spectrum/Pegasus proposal to shift down the public safety block by 1 megahertz would result in the overlap of public safety spectrum onto 1 megahertz of each pair of the current Guard Bands B Block licenses, including licenses that are currently encumbered in certain areas of the country. As a proposed solution to this problem, Access Spectrum/Pegasus offers to work with the Commission and the current Guard Bands B Block licensees to repack all of the current Guard Bands licensees into the newly configured A Block. We note that, in addition to Access Spectrum/Pegasus, two other current Guard Bands B Block license holders, PTPMS II and Harbor Guard Band, LLC, have indicated that they will work with the Commission to develop a plan that treats each party fairly.[435] We seek comment on the extent to which the Commission may rely on these private negotiations to resolve the spectrum overlap problem. We are concerned that, if all incumbent Guard Bands licensees do not come to an agreement consistent with Access Spectrum/Pegasus' alternative proposal, public safety and commercial operations in areas with incumbent B Block licensees would be significantly curtailed. We tentatively conclude that the Commission should reject Access Spectrum/Pegasus' alternative proposal if the incumbent licensees are unable to come to an agreement.

200. Proposal 4. If we determine that we are able to modify the Upper 700 MHz Guard Bands in the manner proposed by Access Spectrum/Pegasus in connection with their alternative band plan proposal, we seek comment on other options the Commission may take. For example, we seek specific comment on the proposals illustrated below.

[434] The alternative proposal would handle the interface between the public safety and new A Block in the same way as under the BOP, as described in the Report of the Second Technical Working Group. Access Spectrum/Pegasus Apr. 18, 2007 *Ex Parte* at 2, citing Second Report of the Technical Working Group, WT Docket Nos. 06-169 and 96-86 (Jan. 26, 2007).

[435] *See* Letter from Michael Gottdenker, Access Spectrum, LLC, Marshall Pagon, Pegasus Communications Corporation, Alfred Angelo, PTPMS II, and John Mason, Harbor Guard Band, LLC, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 06-169, 06-150 and 96-86 (filed April 23, 2007).

FIGURE 9 – FIRST ADDITIONAL PROPOSAL BASED ON MODIFIED GUARD BANDS



Block	Frequencies	Bandwidth	Pairing	Area Type	Licenses
C	746-751.5, 776-781.5	11 MHz	2 x 5.5 MHz	REAG	12
D	751.5-757, 781.5-787	11 MHz	2 x 5.5 MHz	REAG	12‡
E	757-762, 787-792	10 MHz	2 x 5 MHz	EA	176‡
A	762-763, 792-793	2 MHz	2 x 1 MHz	MEA	52*
B	775-776, 805-806	2 MHz	2 x 1 MHz	MEA	52*

*Blocks have been auctioned, at different locations in band plan.

‡If Frontline proposal were adopted, D Block would be licensed on EA basis with 176 licenses, and E Block would be a single, nationwide license.

201. This proposed band plan is composed of a mix of REAG and EA geographic licensing areas for the Upper 700 MHz Band. In conjunction with the tentative conclusion regarding the mix of geographic licensing areas in the Lower 700 MHz Band, this band plan closely approximates the balanced mix of geographic licensing sizes adopted by the Commission in the recent AWS auction. This band plan will provide opportunities for small providers in rural areas, as well as new entrants seeking to establish a nationwide wireless footprint.

202. Specifically, this band plan proposes to license the C and D Blocks as two separate 11-megahertz licenses (each composed of two 5.5-megahertz paired blocks) on a REAG basis, with an E Block similar to the block that that is the subject of the Frontline proposal discussed below licensed as a 10-megahertz license (composed of paired 5-megahertz blocks) on an EA basis. We seek specific comment on whether this proposal regarding the C and D Blocks will provide interested bidders with an opportunity to combine the two blocks into a single 22-megahertz license, which some potential new entrants have suggested would provide unique opportunities to provide broadband services.[436] We also seek specific comment on whether one or both of the C and D Blocks should be auctioned on a combinatorial basis in order to further facilitate the aggregation of a nationwide footprint, and if so, how this should be accomplished.

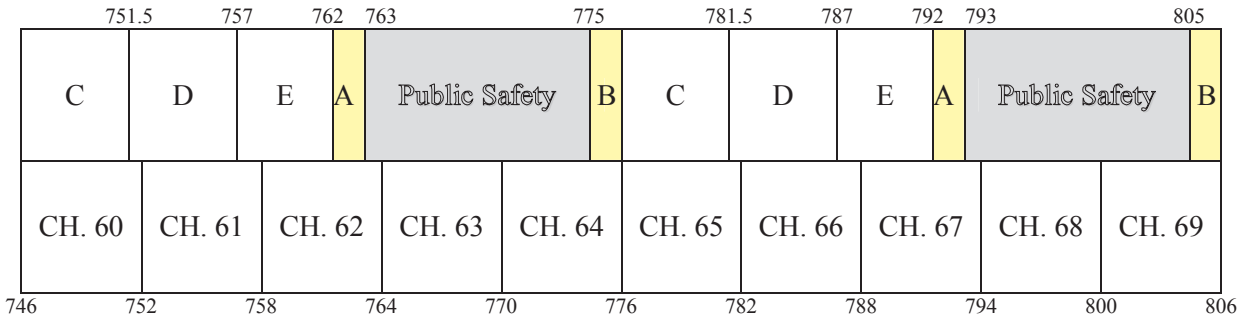
203. In addition, we propose that if the Commission were to adopt the Frontline proposal discussed below (effectively treating the E block as a single national geographic license), we would license the D Block on an EA basis (and maintain the C Block on a REAG basis) in order to maintain a balanced mix of geographic license sizes. We seek comment on this proposal.

204. Proposal 5. Finally, we seek comment on an additional alternative proposal that assumes that we modify the guard bands. As set out below, under this band plan we would license the C and D blocks as two 11-megahertz licenses (each composed of two 5.5-megahertz paired blocks), with a 10-megahertz E Block (composed of paired 5-megahertz block). The C Block would be licensed on a REAG

[436] Coalition for 4G in America *Ex Parte* in WT Docket Nos. 96-86, 06-150 and 06-169.

basis, and the D and E Blocks would be licensed on an EA basis.

FIGURE 10 – SECOND ADDITIONAL PROPOSAL BASED ON MODIFIED GUARD BANDS



Block	Frequencies	Bandwidth	Pairing	Area Type	Licenses
C	746-751.5, 776-781.5	11 MHz	2 x 5.5 MHz	REAG	12
D	751.5-757, 781.5-787	11 MHz	2 x 5.5 MHz	EA	176
E	757-762, 787-792	10 MHz	2 x 5 MHz	EA	176‡
A	762-763, 792-793	2 MHz	2 x 1 MHz	MEA	52*
B	775-776, 805-806	2 MHz	2 x 1 MHz	MEA	52*

*Blocks have been auctioned, at different locations in band plan.

‡If Frontline proposal were adopted, E Block would be a single, nationwide license.

205. A number of parties have argued that a more flexible Upper 700 MHz band plan that includes a mix of licenses could better support a variety of business plans and ensures that the spectrum is made available to the bidders that value it most. There is a concern that a band plan with only REAGs in the Upper 700 MHz Band may artificially favor only the largest wireless incumbents or particular business models. These principles have been supported by a large number of commenters including large wireless providers,[437] tribal governments,[438] state regulators,[439] and a large coalition of wireless providers.[440] These principles reflect the Commission's statutory obligation to ensure "an equitable distribution of licenses and services among geographic areas" and to "avoid [ ] excessive concentration of licenses . . . 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."[441]

206. The above band plan takes into account these several positions by providing for a mix of REAGs and EAs in the upper band plan based in part on the 700 MHz guard band and public safety spectrum restructuring advocated by Access Spectrum and Pegasus. By splitting the larger 22-megahertz block into two 11-megahertz blocks, we increase the opportunity for all providers to actively participate in the auction. We also would allow for combinatorial bidding on the C Block to facilitate the ability of entities to secure a national license. We seek comment on the merits of this proposal and on the specific areas selected for the blocks: two EAs and one REAG. Parties are also encouraged to comment on possible changes to this band plan in the event the Commission adopts a proposal similar to the one advanced by Frontline. Finally, we seek comment on the impact of this band plan on potential new

[437] T-Mobile Reply Comments in WT Docket No. 06-150 at 2-4.

[438] Navajo Nation Comments in WT Docket No. 06-150 at 1-2.

[439] Vermont Department of Public Service *et al.* Comments in WT docket No. 06-150 at 3-4.

[440] Balanced Consensus Plan Comments in WT Docket No. 06-150 at Attachment.

[441] 47 U.S.C. § 309(j)(3).

entrants, some of which have argued that a larger 22-megahertz block is critical for their market entry business plans.[442]

c. Performance Requirements

207. Background. In the *Upper 700 MHz First Report and Order*, the Commission adopted the performance requirements in Section 27.14(a) of its rules for licenses in the 746-764 and 776-794 MHz Bands.[443] The rules outlined in Section 27.14(a) require licensees to provide "substantial service" within ten years of license issuance.[444] The *Upper 700 MHz First Report and Order* also established safe harbors for meeting the substantial service requirement. Specifically, the Commission decided that it would consider a licensee to be providing "substantial service" when the licensee constructs four permanent links per one million people in the licensed service area (when fixed, point-to-point service is offered) or if the licensee demonstrates coverage of 20 percent of the population of the licensed service area (when the licensee offers either mobile services or fixed, point-to-point service).[445] In the *Lower 700 MHz Report and Order*, the Commission adopted the same substantial service standard and safe harbors for licenses in the 698-746 MHz Band.[446] As with all Wireless Radio Service licenses, failure to meet the specified performance requirements under the particular license authorization within the required period results in automatic license termination.[447]

208. In addition, the Commission established a safe harbor related to the provision of mobile service in rural areas in the *Rural Report and Order*. In that Order, the Commission stated that a licensee providing mobile service in various bands, including the 700 MHz Band, "will be deemed to have met the substantial service requirement if it provides coverage to at least 75 percent of the geographic areas of at least 20 percent of the 'rural areas' within its licensed area."[448] This "rural safe harbor" is in addition to the safe harbors specifically established for fixed and mobile services in the 700 MHz Band.

209. In the *700 MHz Commercial Services Notice*, we sought comment on whether the Commission should revise these existing performance requirements, or adopt alternative build-out rules, for unauctioned licenses in the 700 MHz Band in order to promote access to spectrum and the provision of service to consumers.[449] In particular, the *700 MHz Commercial Services Notice* sought comment on the effectiveness of the existing substantial service standard and safe harbors and whether changes or revisions, such as additional safe harbors, should be adopted to better promote service, especially in rural areas.[450] The *700 MHz Commercial Services Notice* also sought comment on whether the Commission should adopt alternative performance requirements, such as population-based or geography-based benchmarks, instead of the substantial service standard.[451] Finally, we sought comment on whether it

[442] Coalition for 4G in America *Ex Parte* in WT Docket Nos. 96-86, 06-150 and 06-169.

[443] *Upper 700 MHz First Report and Order,* 15 FCC Rcd at 505-506 ¶¶ 70-72.

[444] 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.*

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

[446] *See Lower 700 MHz Report and Order*, 17 FCC Rcd at 1079 ¶¶ 149-151.

[447] 47 C.F.R. § 1.946(c).

[448] *Rural Report and Order*, 19 FCC Rcd at 19123 ¶ 79.

[449] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9373-76 ¶¶ 60-69.

[450] *Id.* at ¶ 62-63.

[451] *Id.* at ¶ 64-66.

should adopt a "keep-what-you-use" performance requirement similar to the policy applied to cellular service in the 1980s, or a slightly modified version called "triggered keep-what-you-use."[452]

210. Commenters have presented various positions on the issue of performance requirements, with most discussion centering on a debate between retaining the existing substantial service standard and adopting some type of a "keep-what-you-use" approach. Many of those parties that commented on this issue – representing a mix of large, medium, and small CMRS providers, as well as two providers of broadband technology – recommend that the Commission maintain its existing substantial service standard.[453] In contrast, a number of other commenters support a "keep-what-you-use" approach, including rural CMRS providers, a tribal government, and a coalition of state government agencies.[454] Blooston does not support a "keep-what-you-use" approach for licenses that are based on RSAs but believe the Commission should consider applying this standard to licenses based on larger geographic service areas.[455]

211. Some commenters argue in favor of population- or geography-based construction benchmarks, and some of these parties recommend a combination of both benchmarks and a "keep-what-you-use" approach.[456] In particular, RCA supports a combination of geographic benchmarks and a "keep what you use" rule. Under the RCA proposal, licensees would be required to employ a signal level sufficient to provide service to at least 25 percent of the geographic area of their license area within three years, 50 percent of the geographic area of their license area within five years, and 75 percent of the geographic area of their license area within eight years. In addition, at the end of the license term, a "keep what you use" rule would be applied, in which the unserved portions of the license areas would return to the Commission for reassignment.[457] Vermont Department of Public Service *et al.* also offer a combination of benchmarks and a "keep what you use" rule. Under the proposal by Vermont Department of Public Service *et al.*, the licensee would face either a population-based benchmark that required coverage of 50 percent of the population of the license area within five years and 90 percent of the population within eight years, or a geographic-based benchmark that would require coverage of 40 percent of the license area within five years and 75 percent of the license area within eight years. In

[452] *Id.* at ¶ 67-69.

[453] *See, e.g.*, AT&T Comments in WT Docket No. 06-150 at 12-16; AT&T Reply Comments in WT Docket No. 06-150 at 21-24; CTIA Comments in WT Docket No. 06-150 at 7-16; Cingular Comments in WT Docket No. 06-150 at 9-13; Corr Comments in WT Docket No. 06-150 at 5-8; Dobson Comments in WT Docket No. 06-150 at 5-10; Leap Comments in WT Docket No. 06-150 at 9-10; Leap Reply Comments in WT Docket No. 06-150 at 5-6; MetroPCS Comments in WT Docket No. 06-150 at 15-16; MetroPCS Reply Comments in WT Docket No. 06-150 at 10-12; MilkyWay Comments in WT Docket No. 06-150 at 7-9; NextWave Reply Comments in WT Docket No. 06-150 at 14; Qualcomm Comments in WT Docket No. 06-150 at 19; Union Telephone Comments in WT Docket No. 06-150 at 5-6; U.S. Cellular Comments in WT Docket No. 06-150 at 12-16; U.S. Cellular Reply Comments in WT Docket No. 06-150 at 11-16; Verizon Wireless Comments in WT Docket No. 06-150 at 6-9.

[454] *See, e.g.*, Howard/Javed Comments in WT Docket No. 06-150 at 24-26; Navajo Nation Comments in WT Docket No. 06-150 at 2-3; OPASTCO Comments in WT Docket No. 06-150 at 5-6; RCA Comments in WT Docket No. 06-150 at 8-10; RCA Reply Comments in WT Docket No. 06-150 at 4-7; RTG Comments in WT Docket No. 06-150 at 8-9; Vermont Department of Public Service *et al.* Comments in WT Docket No. 06-150 at 5-10; Vermont Department of Public Service *et al.* Reply Comments in WT Docket No. 06-150 at 4-7.

[455] Blooston Comments in WT Docket No. 06-150 at 7.

[456] *See, e.g.,* DIRECTV/EchoStar Comments in WT Docket No. 06-150 at 9; Navajo Nation Comments in WT Docket No. 06-150 at 2-3; RCA Comments in WT Docket No. 06-150 at 8-10; RCA Reply Comments in WT Docket No. 06-150 at 4-7; Vermont Department of Public Service, *et al.* Comments in WT Docket No. 06-150 at 5-8. The Navajo Nation, RCA, and the Vermont Department of Public Service, *et al.* favorably discuss both benchmarks and a "keep-what-you-use" approach.

[457] *See* RCA Comments in WT Docket No. 06-150 at 8-10; RCA Reply Comments in WT Docket No. 06-150 at 4-7.

addition, as with the RCA proposal, the proposal by the Vermont Department of Public Service *et al.* would apply a "keep what you use" standard to reclaim unused spectrum at the end of the license term. [458]

212. Discussion. Given the numerous and competing arguments offered by commenters, and considering the importance of rules that promote access to spectrum and the provision of service, we seek further comment on the performance requirements for the 700 MHz Commercial Services licensees. As the basis for our consideration, we propose to use a modified version of RCA's recommendation, which combines performance requirements based on geographic benchmarks and a "keep what you use" rule. Specifically, we propose that each licensee provide coverage of 25 percent of the geographic area of the license within three years of the grant of the initial license, 50 percent of this area within five years, and 75 percent of the area within eight years. We seek comment on this proposal, including its advantages and disadvantages. To the extent commenters believe these proposed benchmarks should be higher or lower, we request that they provide information that would corroborate the benefits of their proposed benchmarks and the costs and benefits of alternative approaches. Comments should address whether these specific geographic benchmarks would promote access to spectrum and the provision of service.

213. We also propose to consider the relevant service area to exclude all government land. Under this approach, a licensee with a geographic service area that includes land owned or leased by government would be able to meet the build-out benchmarks by employing a signal level that is sufficient to provide service to the relevant percentages of land in the service area that is not owned or leased by government.[459] If a licensee employs a signal level that provides coverage to land that is owned or leased by government, we seek comment on whether the licensee could count this land area and coverage as part of its service area for purposes of measuring compliance with the performance benchmark. Similarly, we seek comment on whether we should adopt a "keep what you use" standard that also excludes those portions of the licensed areas that encompass land owned or leased by government. In particular, we ask how a "keep what you use" rule that excluded government land would be applied in areas, such as Alaska, in which vast portions of the state or region include such land.

214. We also seek comment on the potential consequences for licensees that fail to meet the interim requirements to cover a minimum percentage of the geographic area of their license area. For example, licensees that fail to meet these benchmarks could have the length of their license term reduced. Alternatively, licensees that fail to meet the benchmarks could have their license area reduced under a proportionate "keep what you use" approach, as proposed by RCA.[460] Under this alternative, the reduction of the license area would be sufficient to create a resulting license area in which the area currently covered meets the relevant interim benchmark. For example, if a licensee employs a signal level sufficient to provide service to only 20 percent of the geographic area by the three-year benchmark, the licensee would be required to return a portion of the licensee's unserved area to the Commission, so that the covered area equals at least 25 percent of the remaining portion of the license area. A similar process would be used if a licensee fails to meet the five- and eight-year benchmarks.

215. We also seek comment on how we might apply a "keep what you use" rule to this proposal. In particular, we ask whether the Commission should apply such a standard to all of the licensees for the unauctioned 700 MHz Band Commercial Services or only to those licensees that fail to meet their geographic benchmarks. For example, the Commission could apply the "keep what you use" rule at the end of the license term, regardless of the level of construction by the licensee. Alternatively,

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[458] *See* Vermont Department of Public Service, *et al.* Comments in WT Docket No. 06-150 at 5-8.

[459] *See* Letter from David L. Nace, counsel for Cellular South Licenses, Inc., to Chairman Kevin Martin and Commissioners Michael Copps, Jonathan Adelstein, Deborah Taylor Tate, and Robert McDowell, FCC, *Ex Parte* in WT Docket No. 06-150 (filed Apr. 23, 2007) at Attachment.

[460] *See, e.g.,* RCA Comments in WT Docket No. 06-150 at 8-10; RCA Reply Comments in WT Docket No. 06-150 at 4-7

licensees that fail to meet the 75 percent geographic area coverage requirement could be subject to a "keep what you use" rule applied either at the 8-year benchmark or at the end of the license term, while licensees that meet the 8-year benchmark could be exempt from a "keep what you use" rule.

216. In addition, we ask commenters to address the process by which the Commission should reclaim unused spectrum under a "keep what you use" rule, and specifically, how such spectrum should be made available to new users. For example, we seek comment on whether parties that hold licenses for other spectrum in the same geographic area should be eligible to acquire the unused spectrum of another licensee after the Commission reclaims this spectrum and makes it available via competitive bidding. Similarly, we seek comment on whether the initial licensee should be eligible to bid on spectrum that it previously held as part of its original license. For both these alternatives, we ask that commenters address how a particular policy would help promote service to the unserved area and whether there would be a risk of negative effects, such as a loss of potential competition.

217. We also propose to apply our performance requirements on an EA and CMA basis only. Under such an approach, licensees with REAGs would be required to employ a signal level sufficient to provide adequate service to at least 25 percent of the geographic area of each EA in its license area within three years, 50 percent of the geographic area of each of these EAs within five years, and 75 percent of the geographic area of each of these EAs within eight years. REAG licensees that fail to meet the interim requirement in any EA within their license areas would lose a portion of the geographic area of that EA, such that the coverage of the remaining portion of the EA would be sufficient to meet the relevant benchmark.

218. We propose that licensees demonstrate their compliance with benchmarks by filing maps and other supporting documents with the Commission.[461] Would such information be sufficient to provide the Commission with easily identified areas, which could be reclaimed and reassigned via competitive bidding under a "keep what you use" approach? We also ask for comment on whether the Commission should reclaim the spectrum in unused areas in pre-defined units, such as counties. Those commenters that recommend a county-based "keep what you use" standard also should provide recommendations on how the Commission should apply this standard in the event a licensee serves only a small portion of a county, such as a highway or an area that is adjacent to a county that has more coverage by the licensee. We seek comment on these alternatives.

219. In addition, assuming licensees with REAGs are required to meet the performance requirements on an EA basis, we propose that these licensees would have to demonstrate coverage for each EA within their license area. Licenses based on EAs or CMAs would have to demonstrate coverage for their respective geographic license areas.

220. Finally, we seek comment on any other proposal that would similarly apply build-out requirements to these licensees more stringent than the substantial service standard applied under our current rules, and on how such proposals could be implemented. For example, should we use population rather than geographic benchmarks?

d. Incumbent Eligibility

221. We also seek comment on the proposal presented by Media Access Project and the Ad Hoc Public Interest Spectrum Coalition (PISC) to encourage the entry of new competitors by excluding incumbent local exchange carriers (ILECs), incumbent cable operators, and large wireless carriers from

[461] When the Commission adopted a benchmark approach for Personal Communications Service (PCS), it stated: "Licensees must file maps and other supporting documents showing compliance with the respective construction requirements within the appropriate five- and ten-year benchmarks of the date of their initial licenses." *See* C.F.R. § 24.203(c).

eligibility for licenses in the 700 MHz Band.[462] In the alternative, PISC suggests that these incumbents only be eligible for licenses in the 700 MHz band through structurally separate affiliates, which it contends would make it possible to detect whether the incumbent receives more favorable treatment than unaffiliated providers.[463] We also seek comment on whether we should encourage the entry of new broadband competitors through lesser restrictions on eligibility for obtaining new licenses, both at auction and in the secondary market. More particularly, we seek comment on whether only parties not affiliated with existing wireline broadband service providers, including both DSL and cable providers, should be eligible to hold one or more blocks of the Upper 700 MHz C Block spectrum. Alternatively, should we restrict eligibility for such licenses to parties not affiliated with in-region wireline broadband service providers? Finally, as an alternative to limiting the parties eligible for new licenses in the 700 MHz Band, we seek comment on whether parties unaffiliated with incumbent wireline broadband service providers should receive a bidding credit on licenses in one or more block of the Upper 700 MHz spectrum. We also seek comment on how such new entrant bidding credits should be coordinated with existing bidding credits for small businesses, *i.e.*, should new entrant credits be cumulative or exclusive of small business bidding credits.

2. 700 MHz Guard Bands

a. Band Plan Proposals

222. Background. Although the Guard Bands occupy a relatively small portion of the 700 MHz Band, changes to the Guard Bands—in terms of location or allocation of the spectrum—potentially implicate the entire Upper 700 MHz band plan. A shift in location or other change to the Guard Bands could impact the neighboring 24 megahertz public safety allocation and the forthcoming auction of the "recovered analog spectrum" that is subject to the statutory deadline established by Congress. In addition, because the Guard Bands are strategically located as interference buffers between commercial operations and public safety narrowband channels, modifications to the Guard Bands could potentially have an effect on the interference environment within the Upper 700 MHz Band.

223. In the *700 MHz Guard Bands Notice*, the Commission sought comment regarding the BOP, a proposal filed by a consortium including most of the existing Guard Band Managers.[464] According to the BOP, the existing A Block would be eliminated and the existing A Block licensees

[462] *See Ex Parte* Comments of the *Ad Hoc* Public Interest Spectrum Coalition, PS Docket No. 06-229and WT Docket Nos. 06-150, 05-211, 96-86, at 9, 18-19 (filed Apr. 3, 2007) ("PISC Apr. 3 *Ex Parte* Comments in PS Docket No. 06-229 and WT Docket Nos. 06-150, 05-211, 96-86"). PISC suggests a prohibition on such incumbents gaining access to the 700 MHz band either by auction or through secondary market transactions. In the alternative, PISC proposes that such restrictions apply to the E Block proposed by Frontline. *See id.* PISC is made up of the Consumer Federal of America, Consumers Union, Free Press, Media Access Project, New America Foundation, and Public Knowledge.

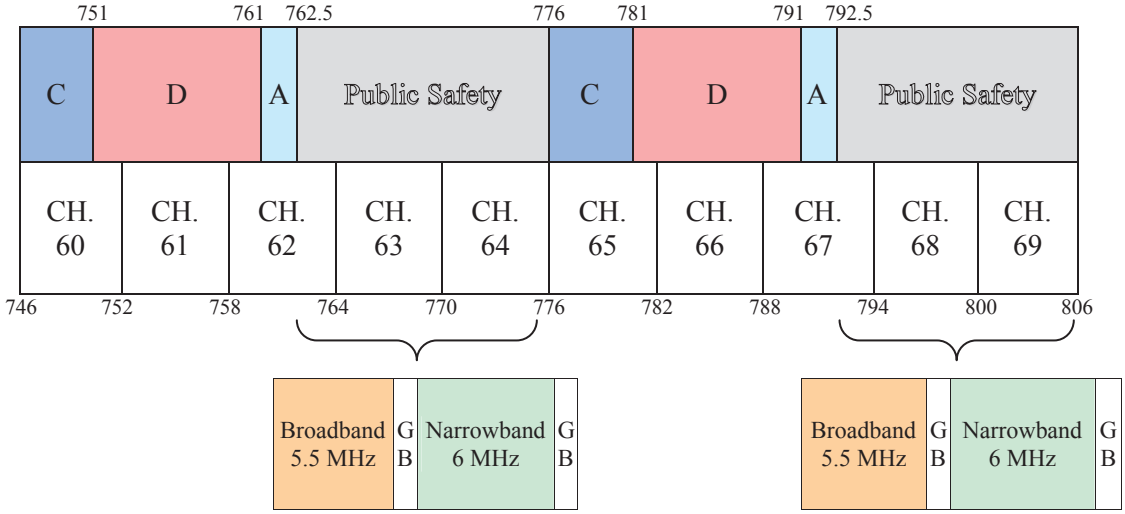
[463] *See id.* at 9-10.

[464] *See 700 MHz Guard Bands Notice,* 21 FCC Rcd at 10430-35 ¶¶ 40-48. We note that the BOP was first filed in the *700 MHz Public Safety Eighth Notice*. Comments of Access Spectrum, L.L.C., Columbia Capital III, LLC, Intel Corporation and Pegasus Communications Corporation Comments in WT Docket No. 96-86 (filed June 6, 2006). For the purposes of this *Report and Order* and *Further Notice of Proposed Rule Making*, the Guard Band Managers associated with the BOP will be referred to as the "BOP proponents." We note that the BOP proponents expanded upon their public safety and Guard Bands proposal by arguing in the *700 MHz Commercial Services* proceeding that the remaining, unauctioned spectrum in the Upper 700 MHz Band consisting of the C and D Blocks should be reconfigured from their current 5- and 10-megahertz allocations, respectively, into two spectrum blocks of 5.5 megahertz and one of 4 megahertz that would be adjacent to their proposed new 1.5-megahertz A Block. We also note that additional proposals have been filed – such as the proposal by the Coalition for 4G in America – that incorporate aspects of the BOP that would reconfigure the Guard Bands, while at the same time proposing reconfiguration of the C and D Blocks. *See* Letter from Ruth Milkman, counsel to Access Spectrum, LLC to Marlene H. Dortch, Secretary, FCC in *Ex Parte* in WT Docket No. 06-169 (filed Mar. 6, 2007).

would be relocated to a modified B Block that the BOP proponents have renamed the new A Block. Of the current 2 megahertz paired of B Block spectrum, 0.5 megahertz paired would be added to the adjacent public safety allocation. The remaining 1.5 megahertz paired would be designated the new A Block, and the 1 megahertz paired of current A Block spectrum would be added to the public safety allocation. These changes would increase the total allocation of public safety spectrum in the 700 MHz Band from 24 to 27 megahertz and increase the total amount of spectrum held by the current A Block licensees from 2 megahertz to 3 megahertz.

224. To permit broadband deployment in the new A Block without causing interference to public safety narrowband operations, the BOP proposes that the public safety narrowband voice channels be consolidated to the upper portion of the 700 MHz Public Safety block, and public safety broadband channels be located next to the new A Block.[465] The BOP assumes that the new A Block licensees are likely to deploy compatible broadband operations in their adjacent allocations, minimizing the potential for interference between commercial and public safety operations.[466]

FIGURE 11 – BROADBAND OPTIMIZATION PLAN



225. Further, the BOP proposes that licenses for the new A Block would be assigned through a private negotiation among existing Guard Band licensees who would determine how the markets would be distributed, based on total MHz-pops of Guard Bands spectrum currently held by a particular licensee, rather than through competitive bidding of the new A Block.[467] This negotiation would include an

[465] *See, e.g.,* Letter from Ruth Milkman, counsel to Access Spectrum, LLC to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket No. 06-169 (filed Mar. 6, 2007) ("Access Spectrum/Pegasus Mar. 6, 2007 *Ex Parte*").

[466] Further, consolidating the public safety narrowband channels, according to the BOP, reduces the amount of spectrum separating—and thus protecting—the public safety broadband and narrowband channels from each other, and thus frees up additional spectrum for public safety use. As a provision of the BOP, public safety entities would be responsible for ensuring interference protection within their own public safety allocation, and the internal guard band within the public safety block separating public safety broadband and public safety narrowband operations would be scalable depending upon the level of protection that applicable public safety entities deem necessary. Another internal guard band that would exist under the BOP at the top of the paired public safety block and which could be used by the public safety community has raised interference concerns among some commenters with regard to the adjacent C Block.

[467] Access Spectrum/Pegasus Comments in WT Docket No. 06-169 at 19.

assignment through private negotiation of any of the B Block licenses returned from Nextel and currently within the Commission's auction inventory.[468] Any licenses unclaimed through the private negotiation would be available for auction.

226. Other parties also submitted band plan proposals to the Commission. The *700 MHz Guard Bands Notice* sought comment on a proposal submitted by Motorola, Inc. (Motorola) and the United Telecommunications Council (UTC),[469] which requested that the Commission reallocate part of the returned B Block spectrum to critical infrastructure industries communications (CII) in support of interoperability with public safety entities.[470] Motorola subsequently proposed that within the framework of the BOP, 1 megahertz of spectrum could be allocated to CII.[471] Another commenter, Ericsson Inc., supports the BOP's reconfiguration of the 700 MHz Public Safety Band to the extent that it proposes to consolidate public safety narrowband channels at the upper half of the block allocated to public safety, and designate five megahertz of spectrum next to the B Block for broadband use.[472] Unlike the BOP, however, Ericsson's proposal recommends that the Commission reallocate the entire B Block for exclusive public safety use.[473] Another commenter, Alcatel-Lucent, originally endorsed a 6 + 6 reconfiguration of the public safety allocation, but subsequently revised its proposal to also provide for a reallocation of the B Block Guard Band spectrum to public safety.[474]

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[468] *Id*.

[469] Motorola, Inc. and United Telecom Council, *Spectrum Toward Next Generation Critical Infrastructure* (filed April 27, 2006) ("CII Proposal"). In an initial filing, Motorola proposed that the B Block be reallocated for both Federal government and critical infrastructure interoperability. Subsequently, Motorola revised its proposal to include only a reallocation for critical infrastructure industries, and not the Federal government. *See* Letter from Steve B. Sharkey, Motorola, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 96-86 and 06-169 at 4-5 (filed Dec. 9, 2005).

[470] *Id.* Subsequently, CII proponents have clarified that this allocation would remain commercial spectrum but assert that they would not be subject to competitive bidding due to the exemption in Section 309(j) of the Communications Act for "public safety radio services" of CII entities to the extent that they provide essential public services and maintain infrastructures that can prevent or respond to disasters or crises. *See, e.g.,* Comments of the Critical Infrastructure Communications Coalition Comments in WT Docket Nos. 06-169 and 96-86 at 8-10 (filed Oct. 23, 2006) ("CICC Comments"), citing Implementation of Sections 309(j) and 337 of the Communications Act of 1934, As Amended, WT Docket No. 99-87, *Report and Order*, 15 FCC Rcd 22709, 22747 ¶ 77 (2000).

[471] Specifically, Motorola proposes that the upper internal guard band in the paired public safety block be reallocated to CII. Motorola Comments in WT Docket No. 06-169 at 16-17. CII advocates maintain support for the original CII proposal, but also support, as an alternative, Motorola's subsequent recommendation to allocate for CII use the BOP's upper internal guard band in the public safety block. *See* CICC Comments in WT Docket No. 06-169 at 10.

[472] *See* Ericsson Inc. Comments in WT Docket 06-169 at 5 (filed Oct. 23, 2006) ("Ericsson Comments"); Ericsson Inc. Reply Comments in WT Docket 06-196 at 1-2 (filed Nov. 13, 2006) ("Ericsson Reply Comments"); Letter from Elisabeth H. Ross, Counsel to Ericsson, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 06-169 (filed Mar. 21, 2007) ("Ericsson Mar. 21, 2007 *Ex Parte*").

[473] Ericsson Comments in WT Docket No. 06-169 at 13. Ericsson also recommends placing a 2-megahertz internal guard band between public safety broadband and narrowband channels, and a 1-megahertz internal guard band at the top of the public safety band to ensure that public safety operations are protected from interference from adjacent users. Ericsson Comments in WT Docket No. 06-169 at 10-11; Ericsson Mar. 21, 2007 *Ex Parte* in WT Docket No. 06-169 at 5.

[474] Lucent Reply Comments in WT Docket 06-169 (filed November 6, 2006) at 1-3 ("Lucent Reply Comments"). The original Alcatel-Lucent "6 + 6" proposal divides the public safety spectrum into six megahertz each of broadband and narrowband, with a 1-megahertz broadband channel as an internal guard band). In an April 6, 2007 filing, Alcatel-Lucent proposed another band plan that consolidates the public safety narrowband channels at the top of the public safety band, and repurposes the wideband channels for "multimedia" use. The proposal also reallocates 1 megahertz paired of the B Block Guard Band as an internal public safety guard band, and the remaining 1 megahertz paired of the B Block Guard Band as a guard band between D Block and the public safety (continued….)

227. Discussion. We tentatively conclude that we should not adopt the BOP, or other proposals to the extent that they propose a reallocation of commercial spectrum for public safety use, or the reassignment of spectrum outside of the competitive bidding process. We believe that Congress's express instructions regarding our allocation of commercial and public safety spectrum in the 700 MHz Band statutorily prohibit the Commission from reallocating the spectrum at this time, and we therefore cannot reallocate commercial spectrum for public safety use as proposed by the BOP and Ericsson plans. Similarly, we believe we are required to use a competitive bidding process to assign the spectrum that has been allocated for commercial use pursuant to these statutory instructions, and therefore must also deny the BOP and the CII proposals on this basis. Even if we possessed legal authority to adopt the BOP and CII proposals, we believe these proposals are not in the public interest because they would assign additional spectrum to current licensees without competitive bidding. We are also concerned that the BOP could result in interference between 700 MHz Band public safety and commercial operations.

228. *Legal authority.* In Section 337(a) of the Act, Congress mandated that the Commission allocate "spectrum between 746 MHz and 806 MHz, inclusive" (*i.e.*, the Upper 700 MHz Band) by designating 24 megahertz of the spectrum "for public safety services" and 36 megahertz of the spectrum "for commercial use to be assigned by competitive bidding pursuant to section 309(j)."[475] As directed by Congress, the Commission allocated 24 megahertz of this spectrum for public safety use at 764-776 MHz and 794-806 MHz and 36 megahertz of this spectrum for commercial use at 746-764 MHz and 776-794 MHz.[476] The 36 megahertz of Upper 700 MHz Band spectrum allocated for commercial use included the Guard Bands.[477] Notably, in deciding whether or not to allow commercial operations inside the Guard Bands, which primarily were designed to protect public safety operations, the Commission concluded that it was constrained by Congress' clear mandate to allocate, and thus auction, a full 36 megahertz of commercial spectrum in the Upper 700 MHz Band.[478] If the Commission had decided to prohibit commercial operations inside the Guard Bands, it would have fallen 6 megahertz short of fulfilling the explicit allocation requirement in Section 337(a).[479]

(Continued from previous page)
"multimedia" block. *See* Letter from Michael McMenamin, Alcatel-Lucent, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 06-169 (filed Apr. 6, 2007)("Alcatel-Lucent Apr. 6, 2007 *Ex Parte*").

[475] 47 U.S.C. § 337(a), as enacted by the Balanced Budget Act of 1997, Pub. L. No. 105-33, Title III, 111 Stat. 251 (1997). Section 337(a) provides in pertinent part:

> (a) . . . the Commission shall allocate the electromagnetic spectrum between 746 megahertz and 806 megahertz, inclusive, as follows:
>
> (1) 24 megahertz of that spectrum for public safety services according to the terms and conditions established by the Commission, in consultation with the Secretary of Commerce and the Attorney General; and
>
> (2) 36 megahertz of that spectrum for commercial use to be assigned by competitive bidding pursuant to Section 309(j).

Congress also established a deadline of January 1, 1998 for this allocation, as well as a deadline of September 30, 1998 for assignment of the public safety licenses. *See* 47 U.S.C. § 337(b). On December 31, 1997, the Commission released an Order fulfilling Congress' allocation directive. *See* Reallocation of Television Channels 60-69, the 746-806 MHz Band, ET Docket No. 97-157, *Report and Order*, 12 FCC Rcd 22953, 22962 ¶ 17 (1998).

[476] Reallocation of Television Channels 60-69, the 746-806 MHz Band, ET Docket No. 97-157, *Report and Order*, 12 FCC Rcd 22953 (1997).

[477] The commercial portion at 746-764 MHz and 776-794 MHz includes the two blocks of paired Guard Bands spectrum at 746-747 MHz and 776-777 MHz, and 762-764 MHz and 792-794 MHz.

[478] *See Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5316-18 ¶¶ 36-40.

[479] *See id*.

229. According to the BOP proponents, once spectrum allocated to commercial use pursuant to Section 337(a) has been auctioned once, the Commission has satisfied its allocation obligations under Section 337, and thus can reallocate the spectrum for public safety use pursuant to its broad spectrum management authority.[480] As support for this interpretation of Section 337(a), the BOP proponents note that the Commission has similarly re-designated commercial spectrum to public safety use in the 800 MHz Band.[481] The BOP proponents assert that "[s]imilar public policy considerations and the exercise of the same statutory authority support allocation of the Upper 700 MHz [Band] B Block to public safety use consistent with the [BOP]."[482] Ericsson does not offer a legal argument in support of its proposed reallocation of the B Block from commercial to public safety use.

230. We recognize the unique communications needs of public safety entities and the instrumental role that spectrum in the 700 MHz Band can play in meeting those communications needs. To that end, we remain committed to ensuring effective and efficient communications between first responders as evidenced by the other actions and tentative conclusions we make today in this *Further Notice*. It appears, however, that the reallocation of commercial spectrum to public safety contemplated by the various Guard Bands proposals – in particular, the BOP, the Ericsson plan, and the revised Alcatel-Lucent plan – would be inconsistent with Section 337. If the proponents of reallocation are correct, and Section 337(a) does not establish a permanent legislative bar on reallocating the Upper 700 MHz Band, we nevertheless believe that it would be contrary to Congress' intent in enacting Section 337 to consider modifying the commercial and public safety allocations in the band at this time, before the licensees have had a meaningful opportunity to use unencumbered spectrum as initially envisioned (an opportunity that is unlikely to be fully available before the end of the DTV transition in 2009).[483] Absent further legislation, and given that we have not yet reached several fundamental milestones envisioned by Congress in the DTV transition, reallocation of spectrum in the Upper 700 MHz Band at this time would appear to be inconsistent with Section 337.[484]

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[480] Letter from Ruth Milkman, counsel to Access Spectrum, LLC and Kathleen Wallman, adviser to Pegasus Communications Corporation, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 06-169 and 96-86 at 2-4, citing 47 U.S.C. §§ 154(i) and 303(r) (filed Dec. 12, 2006) ("Access Spectrum/Pegasus Legal Authority *Ex Parte*"); Access Spectrum, LLC and Pegasus Communications Corporation Reply Comments in WT Docket No. 06-169 at 20-21.

[481] *Id.* at 5, citing Improving Public Safety Communications in the 800 MHz Band, Consolidating the 800 and 900 MHz Industrial/Land Transportation and Business Pool Channels, 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, Petition for Rule Making of the Wireless Information Networks Forum Concerning the Unlicensed Personal Communications Service, Petition for Rule Making of UT Starcom, Inc., Concerning the Unlicensed Personal Communications Service, Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by the Mobile Satellite Service, WT Docket 02-55, ET Docket Nos. 00-258 and 95-18, RM-9498, RM-10024, *Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order*, 19 FCC Rcd 14969, 15080 ¶ 209 (2004) ("*800 MHz Report and Order*").

[482] Access Spectrum/Pegasus Legal Authority *Ex Parte* in WT Docket No. 06-169 at 5.

[483] If, in contrast, these proponents' reading of Section 337 is incorrect, and the statutory language in fact requires the Commission to maintain the specified 24/36 megahertz allocations in perpetuity (barring future legislative action), the result would be the same: the statute would prohibit us from altering these allocations at this time.

[484] *C.f.* Reallocation of 30 MHz of 700 MHz Spectrum (747-762/777-792 MHz) from Commercial Use, Assignment of 30 MHz of 700 MHz Spectrum (747-762/777-792 MHz) to the Public Safety Broadband Trust for Deployment of a Shared Public Safety/ Commercial Next Generation Wireless Network, RM No. 11348, *Order*, DA 06-2278 (rel. Nov. 3, 2006) (finding Cyren Call petition inconsistent with auction requirement of Sections 337(a) and 309(j)(15)(C)(v) and that the Commission lacks authority to take further action).

231. We also believe that we cannot reassign licenses in the manner proposed by the BOP and the CII proponents. In accordance with Section 337's mandate that commercial spectrum in the 700 MHz Band be assigned by competitive bidding, the Commission established in the *Upper 700 MHz Second Report and Order* a licensing framework providing that mutually exclusive applications in this band would be subject to competitive bidding pursuant to Section 309(j) of the Act.[485] This licensing scheme resulted in two auctions of the Guard Band licenses.[486]

232. The BOP proponents seek a reassignment of a total of 1 megahertz from the B Block to the current A Block licensees without competitive bidding.[487] They argue that they should be given this spectrum because it would "create conditions conducive to public safety/commercial broadband partnerships."[488] They also contend that granting them this additional spectrum would result in more efficient and effective use of the spectrum because it would allow the A Block licensees to provide broadband services, which are not possible in the paired 1 megahertz spectrum blocks that they currently hold.[489] The CII proponents also seek to be awarded the B Block licenses without being subjected to competitive bidding. While offering that this spectrum would remain allocated as commercial spectrum, they maintain that the exemption to competitive bidding set out in Section 309(j) of the Commission's rules for "public safety radio services" would apply to the extent that CII provide essential public services and maintain infrastructures that can prevent or respond to disasters or crises.[490]

233. Even assuming agreement with the BOP proponents' reasoning for assigning additional spectrum to the current A Block licensees, it appears that we lack legal authority to assign them additional commercial spectrum in the Upper 700 MHz Band absent competitive bidding, because any such action would be inconsistent with the auction requirements in Sections 337(a). We also believe that awarding the commercial bands to CII outside of the competitive bidding process would be inconsistent with Section 337(a).[491] As noted above, Section 337(a)(2) prescribes competitive bidding as the method of assigning commercial spectrum in the Upper 700 MHz Band.[492] For the same reasons that we cannot reallocate the band at this time, we cannot alter the method of assignment at this time.

234. In addition, if we do not have the statutory authority at this time to assign additional Upper 700 MHz Band spectrum to public safety, the "public safety radio services" exception to Section

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[485] *Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5311 ¶ 27 n.60. The Balanced Budget Act of 1997 required that the Commission use competitive bidding to assign licenses in the 36 megahertz of spectrum within the 746-806 MHz band. *See* 47 U.S.C. § 337(a)(2), as added by § 3004 of the Balanced Budget Act of 1997. Therefore, the Commission determined to assign Guard Band Manager licenses using competitive bidding, as required by Section 337(a)(2).

[486] *See* 700 MHz Guard Bands Auction Closes: Winning Bidders Announced, Report No. AUC-33-H (Auction No. 33), *Public Notice*, 15 FCC Rcd 18026 (WTB 2000); 700 MHz Guard Bands Auction Closes: Winning Bidders Announced, Report No. AUC-38-F (Auction No. 38), *Public Notice*, 16 FCC Rcd 4590 (WTB 2001).

[487] Access Spectrum/ Pegasus Comments in WT Docket No. 06-169 filed October 10 (originally June 6) at 4-5.

[488] *Id.* at 10.

[489] Access Spectrum/ Pegasus Comments in WT Docket No. 06-169 filed October 23 at 7.

[490] *See, e.g.,* CICC Comments in WT Docket No. 06-169 at 8-10.

[491] We acknowledge that under certain circumstances spectrum allocated to CII is not required to be assigned by competitive bidding, due the exception in Section 309(j)(2)(A) for commercial spectrum used for certain "public safety radio services." However, in this case Section 337 of the Act specifically mandates that the 36 megahertz of spectrum in the Upper 700 MHz Band must be assigned by competitive bidding, and thus we cannot adopt the CII proposals to the extent that they request allocations not subject to competitive bidding. We note, however, that CII entities will be eligible to participate in future auctions for spectrum in the 700 MHz Band.

[492] 47 U.S.C. § 337(a)(2).

309(j) of the Communications Act would be inapplicable.[493] Finally, with respect to the BOP proponents' comparisons of their proposal to the re-banding of the 800 MHz Band, we observe that our initiatives in that band did not implicate the Section 337 requirements under discussion here. Thus, the BOP proponents' reliance on the fact that the 800 MHz re-banding initiatives "withstood judicial scrutiny" is irrelevant.[494]

235. *Public Policy Considerations.* Even assuming we have the legal authority to assign additional spectrum to the current A Block licensees without competitive bidding, we believe that the BOP proposal for assigning licenses outside the competitive bidding process would not serve the public interest. As noted above, the BOP proponents argue that giving them additional spectrum will allow them to provide broadband services and create opportunities for public safety/commercial broadband partnerships and that such action is consistent with the Commission's reasoning in the 800 MHz proceeding. Although the A Block licensees' desire to provide broadband services is laudable, that desire appears insufficient to justify giving those licensees spectrum that otherwise would be assigned by auction. Congress and the Commission have determined that using competitive bidding mechanisms for assigning spectrum licenses offers significant public interest benefits.[495] For example, the competitive bidding process ensures that spectrum licenses are assigned to those who place the highest value on the resource and will be suited to put the licenses to their most efficient use.[496] Moreover, the Commission has recognized that the public interest is generally served by an auctions process that is open to a variety of applicants.[497] In addition, we believe it is likely that there will be substantial interest in the returned B Block spectrum by potential applicants other than the A Block licensees.

236. The BOP proponents' reliance on our actions in the 800 MHz Band appears misplaced. Although the Commission found that certain license modifications at issue in that proceeding were in the public interest, the 800 MHz rebanding involved ongoing public safety and commercial operations experiencing "intractable" interference problems that were impairing public safety operations.[498] These problems were the result of a "fundamentally incompatible mix" of communications systems operating in a heavily interleaved band pursuant to technical rules that had been developed over several decades.[499] By contrast, the BOP proponents are not seeking to remedy an ongoing interference problem between validly licensed and operational public safety and commercial entities that developed over time.

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[493] *Id.* § 309(j)(2) ("The competitive bidding authority granted by this subsection shall not apply to licenses or construction permits issued by the Commission – (A) for public safety radio services, including private internal radio services used by State and local governments and non-government entities and including emergency road services provided by not-for-profit organizations, that – (i) are used to protect the safety of life, health, or property; and (ii) are not made commercially available to the public[.]").

[494] Access Spectrum/Pegasus Legal Authority *Ex Parte* in WT Docket No. 06-169 at 5, citing *Mobile Relay Assocs. v. FCC*, 457 F.3d 1 (D.C. Cir. 2006). We note that in *Mobile Relay*, the reallocation of commercial spectrum to public safety spectrum was not discussed and was not at issue.

[495] *See* Budget Reconciliation Act, P.O. 103-66, Legislative History, House Report No. 103-111 (1993) ("competitive bidding system…will encourage innovative ideas, and give proper incentive to spur a new wave of products and services that will keep the United States in a competitive position"). *See generally* Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, *Second Report and Order*, 9 FCC Rcd 2348 (1994) ("*Competitive Bidding Report and Order*").

[496] *See Competitive Bidding Report and Order*, 9 FCC Rcd at 2360-2361 ¶¶ 70-71.

[497] *Implementation of Section 309(j) of the Communications Act, Competitive Bidding*, 9 FCC Rcd 2941, 2943 ¶ 8.

[498] *800 MHz Order*, 19 FCC Rcd at 15012 ¶ 68.

[499] *Id.* at 14972 ¶ 2, 14990-93 ¶¶ 36-39.

237. Further, in the *Air-Ground Order*,[500] we rejected an incumbent licensee's assertion that it should be afforded exclusive rights to use its existing spectrum on a more flexible basis that would allow it to provide broadband. In that order, we removed a limitation requiring voice and slow speed data service in the 800 MHz air-ground band and provided new licensees the flexibility to offer broadband services to aircraft of any type, and to serve any or all aviation markets. We reasoned that affording an incumbent licensee exclusive use with such increased flexibility would provide it with a substantial windfall, and concluded that permitting competing applications for licenses in that band would better serve the public interest. We believe our action in the *Air-Ground Order* supports a conclusion that adoption of the BOP would not be in the public interest, as the BOP proposes that incumbent licensees be afforded, without the prospect of competing applications, additional bandwidth beyond its existing spectrum assignment in addition to enhanced technical flexibility to provide broadband service.

238. We seek comment on these public policy concerns and any similar policy concerns, including our assessment that license assignment by auction is preferable to license assignment by private negotiation or other non-auction methods.

239. In addition to the above public policy concerns, we note that adoption of the BOP could also raise potential interference issues. The Commission created service rules for the Guard Bands that correspond to the specific environment of the existing Upper 700 MHz Band. As noted above, the primary purpose of the Guard Bands was to create a buffer between commercial and public safety operations, which would serve to reduce potential interference. Further, the Commission provided for licensees to offer new services in the Guard Bands, subject to strict technical and operational rules to prevent harmful interference to public safety operations in the adjacent bands.

240. Verizon Wireless argues in an *ex parte* that several aspects of the BOP are too indeterminate to assess the risk for interference between public safety and commercial operations. Verizon notes that under the BOP, the 1-megahertz internal public safety guard band located at 775-776 MHz would be adjacent to the C Block and the internal public safety guard band at 805-806 MHz would be adjacent to the 806–809 MHz public safety narrowband channels, and that these guard bands would be within the control of, and allocated to, public safety.[501] The BOP proposes that the same technical rules that apply to the existing A Block would apply to operations inside this internal guard band.[502] Verizon is concerned that public safety operations deployed in the internal guard band at 775-776 MHz would receive interference from operations in the adjacent C Block. According to Verizon, the C Block licensee would be compelled to correct this interference by dedicating part of its own spectrum as an internal guard band, and limiting usefulness of this spectrum for commercial operations.[503] NPSTC confirms that public safety could deploy operations in the internal guard bands. NPSTC acknowledges that the "guard band status" of this paired 1-megahertz buffer "tempers the full capacity/value [that the] channel otherwise has but [it] still has operational capabilities."[504]

241. We seek comment on the potential interference concerns Verizon raises, including the possibility that operations in the proposed internal public safety guard band could be undertaken by public

[500] Amendment of Part 22 of the Commission's Rules to Benefit the Consumers of Air-Ground Telecommunications Services, *Report and Order and Notice of Proposed Rulemaking*, 20 FCC Rcd 4403, 4438 ¶ 74 (2005) (*Air-Ground Order*).

[501] Letter from Donald C. Brittingham, Verizon Wireless, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket No. 06-169 (filed Feb. 15, 2007) ("Verizon Feb. 15, 2007 *Ex Parte*").

[502] Access Spectrum/Pegasus Reply Comments in WT Docket No. 06-169 at 7-9.

[503] Verizon *Ex Parte* in WT Docket No. 06-169 at 13.

[504] Letter from Vincent R. Stile, Chair, National Public Safety Telecommunications Council, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket No. 06-169, 96-86 at 2 (filed Feb. 23, 2007) ("NPSTC Feb. 23, 2007 *Ex Parte*"). NPSTC adds that it "is also confident that public safety can manage the guard band effectively." *Id.*

safety licensees. We also seek comment on the possibility that a C Block licensee might have to limit emissions at the lower portion of its authorized spectrum block in some manner, which could limit its ability to fully utilize its block and thereby limit service offerings.

242. *Access Spectrum/Pegasus Alternative Proposal*. Acknowledging potential legal concerns with the BOP, especially with respect to the proposed reallocation of spectrum from commercial use to public safety services, Access Spectrum/Pegasus have submitted an alternative proposal to the Commission for modification of the Guard Bands in the Upper 700 MHz Band, which is discussed in detail above.[505] In addition to our discussion of this proposal above, we note our tentative conclusion above that Section 337 and the public interest weigh against awarding 700 MHz spectrum outside of the competitive bidding process at this time. We also note, however, that Access Spectrum/Pegasus do not seek any additional spectrum in their alternative proposal, but instead seek to have the Commission modify their 1 megahertz paired A Block license to specify operations in a new 1 megahertz paired A Block license at different frequencies. We seek comment on whether the alternative proposal sufficiently addresses Section 337 and public interest concerns regarding the assignment of spectrum outside of the competitive bidding process. We also seek comment on whether the licensed geographic areas in the new A Block should be the same as in the current A Block.

b. Other Guard Band Issues

243. We seek further, limited comment here on what the Commission should do if it decides to leave the existing Guard Bands substantially intact. For example, assuming we modify the public safety allocation, the B Block's role as a critical juncture between adjacent commercial and public safety broadband spectrum would potentially be enhanced. After a reconfiguration of the public safety allocation, the B Block would rest between large commercial and public safety spectrum blocks, both of which are well-suited for broadband communications. In that context, we could provide incumbent B Block licensees, as well as future licensees via auction, greater technical and operational flexibility than currently exists by revising our rules regarding restrictions on cellular architectures, and mandating low-site, low-power system architectures. Such initiatives could afford B Block licensees the previously unavailable potential to offer compatible broadband services within their paired 2 megahertz of spectrum, thereby creating additional opportunities for efficient and effective use of the spectrum. These opportunities could include entering into public/private partnerships with the adjacent public safety broadband operator(s), partnering with other commercial licensees to deploy commercial broadband systems, and attracting a broader pool of potential leasing partners interested in deploying broadband.

244. Because the Commission is committed to resolving the issues raised in this *Further Notice* on an expedited basis, we note that if we were to retain the existing band plan, we could simultaneously require B Block licensees to deploy low-site, low-power system architectures, and permit them to deploy cellular systems.[506] At the same time, we would likely request detailed comment on these and any additional prospects for enhancing the utility of the B Block in order to augment the record developed in response to the *Guard Bands Notice*. We seek comment on these ideas, specifically whether the low-site, low-power system architecture requirement, together with removal of the restriction on cellular architectures, is a positive step toward enhancing the B Block should we ultimately decide not to adopt any proposal to eliminate or substantially modify the Guard Band B Block.

245. We also seek comment on whether the Commission should make changes to the A Block Guard Bands spectrum under the current band plan. For example, we seek comment on whether the

[505] *See* Letter from Ruth Milkman, counsel to Access Spectrum, LLC and Kathleen Wallman, adviser to Pegasus Communications Corporation, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 06-169, 06-150 and 96-86 (filed Apr. 18, 2007) (Access Spectrum/Pegasus Apr. 18, 2007 *Ex Parte*).

[506] We sought comment on these issues in the *700 MHz Guard Bands Notice*. *See 700 MHz Guard Bands Notice*, 21 FCC Rcd at 10424-29 ¶¶ 25-35.

technical flexibility we might allow for the B Block would also be possible in the A Block. Are low-site, low-power system architectures technically feasible for the upper Guard Bands A Block immediately adjacent to the Public Safety spectrum allocation? If not, would it nevertheless be useful to provide such flexibility for the lower Guard Bands A Block? With the lower A Block's proximity to both the Lower 700 MHz C Block and the Upper 700 MHz C Block, certain technical modifications might improve compatibilities in the band. We also seek comment on whether, similar to our discussion above for the Guard Bands B Block, there would be a public interest benefit to allowing the current A Block licensees to include their spectrum in the auction inventory in a "two-sided" auction.[507]

3. Competitive Bidding Procedures

246. We seek comment on whether we should use limited information (or "anonymous bidding") procedures in the upcoming auction of new 700 MHz licenses, in order to deter anticompetitive behavior that may be facilitated by the release of information on bidder interests and identities. Current competitive bidding rules permit withholding information on bidder interests and identities prior to the close of bidding. Accordingly, the Commission can make a final decision regarding the procedures for the auction as part of the regular pre-auction process. We seek comment here in light of the potential importance of this band with respect to competition in broadband services and in order to assess whether the use of anonymous bidding should be a factor in determining the final band plan for new 700 MHz licenses.

247. In prior auctions, the Commission has adopted procedures, contingent on pre-auction assessments of likely competition in the auction, for withholding public release until the close of the auction of: (1) bidders' license selections on their short form applications and the amount of their upfront payments; and (2) the identities of bidders placing bids.[508] In the context of those prior auctions, the Commission noted that there may be potential harms as well as benefits from publicly revealing all information during the auction process.[509] In this proceeding, the Ad Hoc Public Interest Spectrum Coalition asserts that anonymous bidding for new 700 MHz licenses is critical to promoting competitive entry in wireless broadband.[510] In contrast, United States Cellular Corporation contends that smaller auction participants need information about larger entities' bids during the auction and that smaller auction participants may encounter difficulties with financing, if the Commission withholds the information during the auction.[511]

248. We seek comment on the balance of potential harms and potential benefits from releasing information on bidder identities and interests during the auction of new 700 MHz licenses. In recent

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[507] *See supra* Section IV.B.1.a.

[508] *See, e.g.,* Auction of 1.4 GHz Band Licenses, Scheduled for February 7, 2007, Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction No. 69, *Public Notice*, 21 FCC Rcd 12393, ¶¶ 4-6 (2006); Auction of Advanced Wireless Services Licenses Scheduled for June 29, 2006, Notice and Filing Requirement, Minimum Opening Bids, Upfront Payment and Other Procedures for Auction No. 66, *Public Notice*, 21 FCC Rcd 4562, ¶¶ 140-157 (2006) ("*Auction No. 66 Procedures Public Notice*").

[509] *See Auction No. 66 Procedures Public Notice* at ¶¶ 140-157.

[510] PISC Apr. 3 *Ex Parte* Comments in PS Docket No. 06-229 and WT Docket Nos. 06-150, 05-211, 96-86 at 13; Letter from Harold Feld, counsel to Media Access Project, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket No. 06-150 (filed Apr. 19, 2007) (contending that accompanying Affidavit of Dr. Gregory Rose demonstrates that the open auction structure of Auction No. 66 permitted incumbents to engage in retaliatory bidding).

[511] Letter from George Y. Wheeler, counsel to United States Cellular Corp., to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 06-150, 06-169, 96-86, 05-265, and 00-139, and PS Docket No. 06-229 (filed Mar. 27, 2007) ("U.S. Cellular Mar. 27 *Ex Parte* in WT Docket Nos. 06-150, 06-169, 96-86, 05-265, and 00-139, and PS Docket No. 06-229") at 7.

auctions where the Commission has considered withholding information about bidder identities and interests during the auction, the Commission has assessed likely competition in the auction and determined that, given the anticipated level of competition, the benefits of releasing the information outweighed the potential harms. However, if the potential harms of releasing the information are substantial enough, or the potential benefits of releasing the information so slight, it may be appropriate to withhold the information regardless of the likely level of competition. For this auction, we seek comment on whether the potential to use new 700 MHz licenses to create alternatives to existing broadband networks increases the benefits from anonymous bidding by making it harder for existing providers to identify and impede the efforts of potential new entrants to win. Does the lack of readily available technologies for use in the band, relative to existing broadband networks in other bands, reduce the potential benefit of using bidders' identities to guess what technologies will be deployed? Given the potential harms and benefits from releasing information on bidder identities and interests during the auction of new 700 MHz licenses, should the Commission make its decision regarding the release of the information contingent on an assessment of likely competition? If so, should the Commission change how it makes its pre-auction assessment of likely competition?

249. We also seek comment on whether the potential use of anonymous bidding should be a factor in determining the final band plan. Would a band plan with a greater number of small licenses be more or less appropriate if bidders are able to bid anonymously for those licenses? Commenters should make clear what factors support their position on anonymous bidding, how these factors apply to this auction, and the extent to which these factors may depend upon the final band plan adopted. Commenters should address whether their views are dependent on whether the Commission conditions the implementation of such limits on a measure of the anticipated competitiveness of the auction, such as the eligibility ratio or a modified version of the eligibility ratio.

4. 700 MHz Public Safety Spectrum

250. We tentatively conclude to redesignate the public safety wideband spectrum for broadband use consistent with a nationwide interoperability standard, and to prohibit wideband operations on a going forward basis.[512] Further, should we adopt this broadband approach, we tentatively conclude that we should consolidate the existing narrowband allocations to the upper half of the 700 MHz Public Safety Band, and locate broadband communications in the lower half of this band. In addition, we tentatively conclude that we should establish an internal guard band between the narrowband and broadband allocations. We also seek comment on a limited number of issues relating to use of the 700 MHz public safety spectrum, should we reallocate the wideband spectrum to broadband use.

a. Broadband

251. The current distribution of channels in the 700 MHz Public Safety Band includes a mix of narrowband, wideband general use, wideband interoperability and wideband reserve channels.[513] In

[512] Within the context of the 700 MHz public safety band plan, "wideband" refers to 50 kHz systems that may utilize a bandwidth no more than 150 kHz. *See* 47 C.F.R. § 90.531(c) and (d)(2). To the extent a public safety entity has constructed, deployed, and is currently operating, as of the release date of this Report and Order, a wideband system pursuant to a grant of Special Temporary Authority (STA), and has reason to continue such operations beyond the current term of the STA, we will work with such entity to extend such authority.

[513] *See* 47 C.F.R. § 90.531. Wideband general use refers to 50 kHz channels managed by Regional Planning Committees (RPCs) to meet regional and local needs. The Commission has issued no licenses for regular authorizations for wideband general use channels. Our licensing records reflect, however, that there are two grants of special temporary authority (STA) licensed on the wideband general use channels. Wideband interoperability channels also are channelized at 50 kHz. Wideband reserve spectrum is not channelized and refers to 700 MHz spectrum that the Commission had set aside for future public safety use. The wideband interoperability and reserve channels have not been available for licensing. We refer to the wideband general use, wideband interoperability, and wideband reserve channels collectively as "wideband."

the *700 MHz Public Safety Eighth Notice*, the Commission sought comment on revisions proposed by the National Public Safety Telecommunications Council (NPSTC), Motorola, and Lucent to the band plan.[514] All of the proposals contemplated aggregating the wideband general use channels, wideband interoperability channels, and wideband reserve spectrum to form a broadband segment. The Commission also sought comment on ways in which public safety entities could use the 700 MHz public safety spectrum for broadband applications, and on measures that should be taken to promote broadband interoperability.[515]

252. In response to the *700 MHz Public Safety Eighth Notice*, the overwhelming majority of public safety entities support some form of a broadband allocation in the existing 700 MHz Public Safety block.[516] NPSTC and APCO recognize that "broadband would enable real-time, full motion video from any location to any other location; live video from an emergency scene to a command center; downloading building diagrams and blueprints to firefighters in the field; uploading and downloading of mug shots and AMBER Alert photos for police officers in the field; mapping/location-based services; digital image transfers; large file transfers; and bioterrorism detection and response information."[517] NPSTC notes that public safety communications needs, once limited to voice communications, are now expanding rapidly to encompass new broadband applications.[518] In addition, while not discounting the continued need for narrowband voice and data, NPSTC contends there is an imperative need for a 700 MHz nationwide, interoperable public safety broadband network and that the 700 MHz public safety spectrum is especially suitable for that purpose.[519]

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[514] *See 700 MHz Public Safety Eighth Notice*, 21 FCC Rcd at 3676-79 ¶¶ 14-22.

[515] *Id.* at 3675-76 ¶ 13, 3683-84 ¶ 33.

[516] *See, e.g.*, NPSTC Comments in WT Docket No. 96-86 at 1; APCO Comments in WT Docket No. 96-86 at 2; State of California Comments in WT Docket No. 96-86 at 1; California Highway Patrol Comments in WT Docket No. 96-86 at 1; City and County of Denver Comments in WT Docket No. 96-86 at 1; State of Hawaii Comments in WT Docket No. 96-86 at 1; International Association of Fire Chiefs Comments in WT Docket No. 96-86 at 1; International Association of Chiefs of Police, Major Cities Chiefs Association, National Sheriffs Association, Major Cities Sheriffs Association Joint Reply Comments in WT Docket No. 96-86 at 1; National Association of Regional Planning Committees Comments in WT Docket No. 96-86 at 1; Region 12 Reply Comments in WT Docket No. 96-86 at 1; Region 24 Comments in WT Docket No. 96-86 at 1; Region 26 Comments in WT Docket No. 96-86 at 1; Region 39 Comments in WT Docket No. 96-86 at 1; Region 40 Comments in WT Docket No. 96-86 at 1; Region 45 Comments in WT Docket No. 96-86 at 1; Region 49 Comments in WT Docket No. 96-86 at 1.

[517] *See* NPSTC and APCO Joint Comments in WT Docket No. 05-157 at 6.

[518] *See* NPSTC Comments in RM-11348 at 4 (Nov. 29, 2006). *See also The Present and Future of Public Safety Communications: Hearing Before the Senate Comm. on Commerce, Science & Transportation,* 109th Cong. 2-3, (2007) (statement of Mr. Harlin R. McEwen, Chairman, Communications and Technology Committee, International Association of Chiefs of Police) (McEwen Testimony) (the benefits from a nationwide broadband network include broadband data services (such as text messaging, photos, diagrams, and streaming video) not currently available in existing public safety land mobile systems). Although these comments and testimony are related to a proposal by Cyren Call, which the Public Safety and Homeland Security Bureau found the Commission lacked statutory authority to implement, *see* Reallocation of 30 MHz of 700 MHz Spectrum (747-762/777-792 MHz) from Commercial Use, RM No. 11348, *Order*, DA 06-2278 (PSHSB 2006), the comments submitted in that proceeding and related testimony before Congress are relevant to our decision to implement a broadband allocation here because they reflect the public safety community's support for deployment of a nationwide interoperable broadband network in the 700 MHz Band.

[519] *See* NPSTC Comments in RM-11348 at 4, 10. *See also* McEwen Testimony at 2 ("The implementation of a nationwide public safety broadband network can also be the beginning of the end to the problem of public safety interoperability"); Region 24 Reply Comments in WT Docket No. 96-86 at 5 (broadband is the most effective means to ensuring interoperable public safety communications); NPSTC Comments in WT Docket No. 96-86 at 14-15; Lucent Comments in WT Docket No. 96-86 at 7-8.

253. Based on this significant support in the record, we tentatively conclude that providing broadband spectrum for advanced public safety communications would best serve our goal of enabling first responders to protect safety of life, health and property. While some commenters argue that the Commission should continue to allow public safety entities the flexibility to deploy either wideband or broadband applications,[520] we tentatively conclude that providing such flexibility could hinder efforts to deploy a nationwide, interoperable broadband network by perpetuating a balkanization of public safety spectrum licenses, networks, and technology deployment. Further, only through use of broadband networks could public safety leverage advanced commercial technologies and infrastructure to reduce costs and speed deployment, and enable the potential for priority access to commercial networks during emergencies. Accordingly, we believe that only broadband applications consistent with a nationwide interoperability standard should be deployed in the current wideband allocation of the 700 MHz Band. We thus tentatively conclude to reallocate spectrum previously designated for wideband use for broadband use only, and prohibit wideband operations on a going forward basis. We seek comment on these tentative conclusions.[521]

b. Band Plan Issues

254. As noted above, in the *700 MHz Public Safety Eighth Notice*, the Commission sought comment on proposals to aggregate the public safety wideband channels to form a broadband segment. The Commission solicited alternative proposals, but tentatively concluded overall not to alter the locations of the narrowband channels.

255. In the *700 MHz Guard Bands Notice*, we sought comment on the BOP which, aside from its Guard Bands components, proposes a reconfiguration of the band plan for the 700 MHz Public Safety spectrum where the narrowband channels are consolidated to the upper half of the block, and the lower half of the block is dedicated to broadband operations. In the *700 MHz Guard Bands Notice*, we tentatively concluded that any proposal such as the BOP involving a relocation of the narrowband voice channels must address (1) the source of funds to reprogram already-deployed 700 MHz Band public safety radios, and (2) coordination of the proposal with co-channel TV broadcasters in Canada and Mexico at border areas.[522]

256. In response to the *700 MHz Public Safety Eighth Notice* and the *700 MHz Guard Bands Notice*, commenters generally support a reconfiguration of the 700 MHz Public Safety Band.[523] The BOP proponents assert that such reconfiguration reduces the amount of spectrum consumed for separating—and thus protecting—the public safety broadband and narrowband channels from each other, and thus frees up additional spectrum for public safety use resulting in a potential contiguous 5-megahertz block of broadband spectrum.[524] The WiMAX Forum adds that a 5-megahertz channel size enables a fuller range of applications, and facilitates partnerships between public safety broadband operations and 4G commercial broadband technologies, which also are based on 5 megahertz spectrum blocks.[525] Alcatel-

[520] *See, e.g.*, NPSTC Comments in WT Docket No. 96-86 at 1-2; APCO Comments in WT Docket No. 96-86 at 2.

[521] Because we make these tentative conclusions, we defer consideration of the questions raised in the *700 MHz Public Safety Eighth Notice* regarding adoption of a wideband interoperability standard. The *700 MHz Public Safety Eighth Notice* sought to refresh the record on whether to retain the wideband segment and adopt SAM as a wideband data interoperability standard, as recommended by the National Coordination Committee (NCC). *See 700 MHz Public Safety Eighth Notice*, 21 FCC Rcd at 3683-3684 ¶ 33.

[522] *See 700 MHz Guard Bands Notice*, 21 FCC Rcd at 10433-34 ¶ 46.

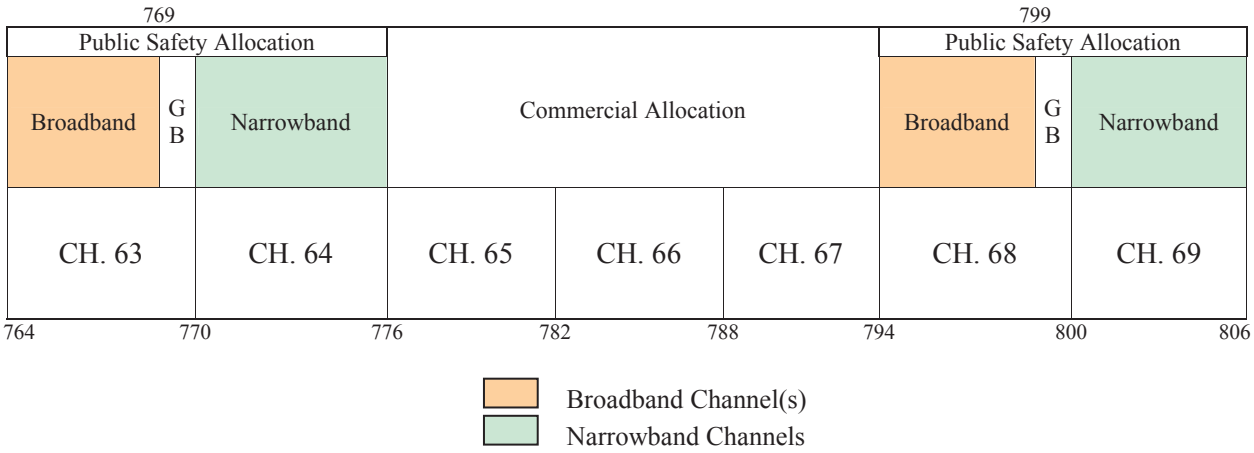
[523] *See, e.g.*, Region 24 Comments in WT Docket No. 96-86 at 2; Region 26 Comments in WT Docket No. 96-86 at 1; Region 39 Comments in WT Docket No. 96-86 at 1.

[524] *See* Access Spectrum/Pegasus Comments in WT Docket No. 96-86 at 3-5.

[525] WiMAX Forum Reply Comments in WT Docket No. 96-86 at 1-2.

Lucent states that consolidation of the narrowband channels would lower the risk of intermodulation distortion in narrowband receivers.[526]

FIGURE 12 – PROPOSED RECONFIGURATION OF 700 MHZ PUBLIC SAFETY BAND



257. Having tentatively concluded that only broadband applications consistent with a nationwide interoperability standard may be deployed in the current wideband allocation for public safety in the 700 MHz Band, we seek to take further steps to optimize the band plan for this spectrum, essentially building upon the public safety-related proposals in the BOP and the record developed pursuant to the *700 MHz Guard Bands Notice* and *700 MHz Public Safety Eighth Notice*. Specifically, we tentatively conclude that, assuming we decide to adopt this broadband approach, we will consolidate the existing narrowband allocations to the upper half of the 700 MHz Public Safety block, and will designate the lower half of the block for broadband operations. Additionally, we tentatively conclude that we will adopt a 1 megahertz internal guard band at the top of the resulting broadband allocation to buffer it from the narrowband allocation and thus prevent interference.

258. In addition, we seek comment on whether we should revise the OOBE limit required for Upper 700 MHz Commercial Services Band base stations to protect public safety operations in the band if we adopt the tentative conclusions discussed above. In particular, we seek comment on the proposal by Access Spectrum *et al.* that, in these circumstances, we should replace the existing limit of 76 + 10log P applicable to emissions into the 700 MHz Public Safety spectrum with the 43 + 10logP OOBE standard that protects commercial services in the 700 MHz Band.[527]

259. We also seek comment on a limited number of related questions regarding: (1) whether to allow limited use of the internal guard band in areas along the Canadian border to the extent that Canadian broadcasters cause interference to the relocated narrowband channels; (2) whether to adopt a transition plan, and what that plan should be; and (3) whether and how such transition should be funded.

260. *Temporary Use of Internal Guard Band in International Border Areas*. The *700 MHz Guard Bands Notice* observed that a reconfiguration of the band plan for the 700 MHz Public Safety spectrum may result in the relocated narrowband channels being blocked by existing Canadian TV

[526] *See* Alcatel-Lucent Mar. 21 *Ex Parte* in WT Docket No. 06-169 at 6; *see also* Lucent Reply Comments in WT Docket No. 06-169 at 2-3.

[527] *See* Access Spectrum *et al.* Comments in WT Docket No. 06-150 at 33-34 and Appendix B at 13-14.

broadcasters in border areas.[528] Although the Canadian government has agreed to clear broadcasters from TV channels 63 and 68, there is no such agreement for TV channels 64 and 69.[529] Because we have tentatively concluded here that we will consolidate the public safety narrowband channels onto TV channels 64 and 69, they are subject to interference from Canadian broadcast operations throughout the duration of Canada's transition to DTV. We note that one virtue of the BOP is its differing approach to a reconfiguration of the band plan for 700 MHz Public Safety spectrum, where its shift in the spectral location of the block dedicated to public safety results in an overlap of 1 megahertz of the 6-megahertz paired narrowband channels with TV channels 63 and 68, which Canada has already agreed to clear.[530] The BOP did not provide any corresponding detail with respect to areas along the Mexican border.

261. Because we tentatively conclude that we cannot adopt the BOP as discussed earlier, and thus its overlap feature would not be available to mitigate channel conflicts in the Canadian and Mexican border areas, we seek comment on whether to temporarily allow, in border areas, narrowband voice communications within the public safety internal guard band that we have tentatively concluded will be required to protect the narrowband channels from the broadband channels.[531]

262. *Transition Issues*. Given our tentative conclusion to permit only broadband applications consistent with a nationwide interoperability standard in the channels presently allocated for wideband, and to reconfigure the 700 MHz Public Safety band plan, we also must address how best to migrate existing narrowband operations on channels 63 and 68 to channels 64 and 69. Our licensing database shows that there are 38 narrowband licenses on channels 63 and 68 that would be subject to relocation. In addition, all 50 states, Puerto Rico, the U.S. Virgin Islands and the District of Columbia were granted State Licenses, which authorize use of certain narrowband channels on TV channels 63, 64, 68 and 69.[532] No licenses appear to have been issued for wideband General Use channels.[533] The wideband interoperability channels and the reserve spectrum have not been available for licensing. Some RPCs voice concerns that consolidating the narrowband channels will disrupt planning.[534] On the other hand, the record suggests that the costs and inconveniences of consolidating the narrowband channels are minor compared to the relative potential for accommodating future technologies.[535]

263. We seek comment on how to implement reconfiguration of the 700 MHz public safety narrowband channels with minimum disruption to incumbent operations. Given the relatively small

[528] *See 700 MHz Guard Bands Notice*, 21 FCC Rcd at 10433 ¶ 45.

[529] *See* Letter from Ruth Milkman, Counsel for Access Spectrum, LLC and Kathleen Wallman, Adviser to Pegasus Communications Corp., to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket No. 06-169 (filed Oct. 23, 2006) ("700 MHz Technical Working Group Report") at 9-10.

[530] *Id.*

[531] We note that the result of this option would be a corresponding loss of 1 megahertz of available spectrum for broadband communications, since a 1-megahertz internal guard band would still be necessary to protect the shifted narrowband channels from public safety broadband operations. However, we are seeking comment on whether to allow the public safety broadband operator(s) to utilize their full 5-megahertz broadband allocation by gaining a temporary easement into the adjacent D Block spectrum proposed above. *See supra* Section IV.B.1.a.

[532] The Commission designated 2.4 megahertz of spectrum, all narrowband channels, for statewide, geographic-area licenses, and 2.4 megahertz for nationwide use.

[533] Our licensing records reflect that there are two grants of special temporary authority (STA) licensed on the wideband base and mobile channels.

[534] *See* Region 12 Reply Comments in WT Docket No. 96-86 at 1-2 (stating that the costs and disruption of agency activity, as well as the amount of time and effort required to put the plan into effect, would make reallocating the narrowband frequencies prohibitively expensive).

[535] *See* Region 24 Comments in WT Docket No. 96-86 at 15; Region 39 Comments in WT Docket No. 96-86 at 1 (now is the best time to consider new ideas as very little has been put into effect).

number of incumbents that would be affected, we seek comment on whether relocation procedures adopted in other contexts may apply here.[536] We also seek comment on the appropriate timing of relocating narrowband operations. How quickly should the narrowband channel consolidation be completed, in view of the February 17, 2009 date by which incumbent broadcasters are to be cleared from the 700 MHz Band? Further, how does the existence of broadcast incumbents prior to the DTV transition impact timing? Commenters also should address any special situations in border areas adjacent to Canada and Mexico, as more fully addressed below.

264. *Funding Issues*. Primary to the issue of how a relocation of public safety narrowband would occur is the determination of the costs of the relocation and how (or from whom) the costs will be covered. In order to estimate the true costs associated with relocation as accurately as possible, we seek up-to-date information regarding how many narrowband radios are currently deployed and how many are actively being used.[537] Based on those estimates, we ask commenters to quantify the costs that would be involved with consolidating the narrowband channels and relocating existing deployments. We also seek comment on how these costs should be funded, if we should not adopt the tentative conclusion above to impose the funding requirement on the D Block licensees.[538] Given the significant benefits of reconfiguration, and that the number of entities impacted and expected cost of reconfiguration should be relatively minor (especially in comparison to, *e.g.*, the 800 MHz Band reconfiguration),[539] it is also appropriate to consider, among other options, whether public safety should pay for its own relocation costs. The Commission has on occasion required incumbents to fund their own relocations.[540]

265. We recognize that the public safety community's ability to fund the reconfiguration may be limited.[541] In this regard, however, some commenters have suggested that a portion of the $1 billion Public Safety Interoperable Communications Grant Program may be used to defray the expense of relocating public safety.[542] We seek comment on the potential availability of monies from this fund for paying the costs of narrowband consolidation. We also seek comment on whether there are other potential funding sources from existing grant programs. Finally, we seek comment on whether we should require the nationwide licensee of the commercial Upper 700 MHz spectrum block proposed by Frontline

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[536] *See* Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, ET Docket No. 92-9, *First Report and Order and Third Notice of Proposed Rulemaking*, 7 FCC Rcd 6886, 6888 ¶ 14 (1992) (relocation of fixed microwave incumbents for Emerging Technology services); Improving Public Safety Communications in the 800 MHz Band, et al., *Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order*, WT Docket No. 02-55, 19 FCC Rcd 14969 (2004) (relocation of public safety licensees operating to comparable facilities to facilitate 800 MHz band reconfiguration).

[537] In a recent *Ex Parte* presentation, Motorola estimates that 750,000-800,000 dual 700/800 MHz radios have been deployed, but Motorola does not provide an estimate on the number of such radios that have already been programmed to operate at 700 MHz. *See* Motorola Mar. 6, 2007 *Ex Parte* at 8.

[538] We note that although Access Spectrum and Pegasus proposed to assume the entire cost of reconfiguration, conditioned on adoption of the BOP, we have tentatively concluded that we cannot adopt the BOP.

[539] *800 MHz Report and Order*, 19 FCC Rcd at 15064 para. 179 (the Consensus Parties estimated the cost for reconfiguring the 800 MHz Band at $850 million).

[540] *See* Amendment of the Commission's Rules Relative to the Licensing of Microwave Radio Stations Used to Relay Television Signals to Community Antenna Television Systems, *First Report and Order and Further Notice of Proposed Rulemaking*, Docket No. 15586, 1 FCC 2d 897, 911 (1965).

[541] *See, e.g.*, NPSTC Comments in WT Docket 96-86 at 7-8 ; APCO Comments in WT Docket 96-86 at 3-4; Region 24 Comments in WT Docket 96-86 at 17.

[542] *See, e.g.,* Northrop Reply Comments in WT Docket 96-86 at 3. Section 3006 of the DTV Act created the Public Safety Interoperable Communications Grant Program to assist public safety entities in the acquisition of, deployment of, and training for the use of interoperable communications that utilize or enable interoperability with 700 MHz public safety communications systems. *See* Pub. L. No. 109-171, 120 Stat. 4 (2006), § 3006(a).

to fund the reconfiguration. Similarly, if we auction Guard Bands B Block licenses, including those returned from Nextel, should we require the auction winners to fund the reconfiguration costs, given the implicit benefits to the B Block of the reconfiguration?[543] To the extent that the Commission determines that it is in the public interest to license a nationwide public safety broadband licensee pursuant to the *Public Safety Ninth Notice*, should the nationwide licensee be assigned responsibility for funding the reconfiguration?

c. Power Limits for Public Safety Broadband

266. In the Report and Order, above, we modify our power limit rules for the Upper and Lower 700 MHz Commercial Services Band by implementing a PSD model for defining power limits, permitting increased power in rural areas, and permitting radiated power levels to be measured on an average, rather than peak, basis. As discussed above, this action will permit higher power and increased flexibility for 700 MHz Commercial Services Band licensees implementing wider band technologies, with certain measures in place to protect against any possible increased interference, especially to 700 MHz public safety users.

267. We also tentatively conclude to permit only broadband applications in the 700 MHz Public Safety Band consistent with a nationwide interoperability standard in the channels presently allocated for wideband. We seek comment on whether it is appropriate to provide the same flexibility to 700 MHz Public Safety broadband operations as that afforded 700 MHz Commercial Services Band licensees by implementing a PSD model for defining power limits, permitting increased power in rural areas, and permitting measurement of power levels on an average, versus peak, basis. We also seek comment on whether the technical restrictions adopted today for the 700 MHz Commercial Services Band with respect to interference protection, if applied to public safety broadband spectrum, will protect adjacent band operations.

5. Frontline's Proposal

268. In this section we seek comment on Frontline's proposal that the Commission alter the upper portion of the Upper 700 MHz Commercial Services Band to designate a 10 megahertz "E Block" for a commercial licensee and to impose specific conditions on that licensee requiring it to construct and operate a nationwide, interoperable broadband network for sharing with a national public safety licensee providing broadband service in the lower portion of the 700 MHz Public Safety spectrum.[544] Comment also is sought on service rules proposed by Frontline.

269. Background. Frontline has submitted filings with the Commission regarding its proposed "Public Safety Broadband Deployment Plan" for 700 MHz spectrum.[545] These filings, which propose

[543] These benefits would include the potential of public/private partnerships due to compatible system architectures between the B Block and the reconfigured Public Safety block, and the potential for the Commission to ease the existing interference protection rules (including the cellular architecture restriction) that apply to the B Block that initially were created to protect the formerly adjacent Public Safety narrowband channels.

[544] *See generally* Frontline Comments in PS Docket No. 06-229; Frontline Mar. 6 Comments in WT Docket No. 06-150; Frontline Reply Comments in PS Docket No. 06-229; Frontline March 12 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229; Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229; Section II.E., *supra.*

[545] Frontline Comments in PS Docket No. 06-229; Frontline Reply Comments in PS Docket No. 06-229; Frontline Mar. 6 Comments in WT Docket No. 06-150; Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229. *See also* Frontline March 7 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229; Frontline March 12 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229; Frontline March 16 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229; Frontline Mar. 19 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229; Frontline Mar. 22 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229.

various conditions on 10 megahertz of the commercial 700 MHz spectrum that we are required to auction, also are related to issues in the 700 MHz Guard Bands proceeding and the 700 MHz Public Safety proceeding.[546]

270. In the *700 MHz Commercial Services Notice*, we requested comment on possible changes to the existing service rules and band plan for non-guard-band commercial spectrum that is being reclaimed by the Commission in connection with the DTV transition.[547] Among other matters, Frontline seeks a revision of the band plan that would divide the existing 20-megahertz D Block of the Upper 700 MHz Band to create a new paired 5 megahertz "E Block" (10 megahertz total).

271. In the *700 MHz Guard Bands Notice*, we sought comment on possible changes to the existing service rules and band plan for the six megahertz of Guard Bands spectrum licensed to protect the operations in the adjacent 700 MHz Public Safety spectrum.[548] Specifically relevant to Frontline, which supports the BOP,[549] is our tentative conclusion in this Further Notice that we cannot adopt the BOP due to a lack of statutory authority and because, in any event, adoption of the BOP would not be in the public interest.[550]

272. *Frontline's Proposal*. Frontline proposes that the Commission alter the upper portion of the band plan and service rules in the *700 MHz Commercial Services Notice* in order to auction a single nationwide 10-megahertz license (a new "E Block") near the 700 MHz Public Safety spectrum that would be subject to specific conditions. The "E Block" would consist of the paired 757-762 MHz and 787-792 MHz frequencies, which currently comprises the upper half of the 20-megahertz D Block of the Upper 700 MHz Band.[551] As discussed in more detail below, the new paired "E Block" licensee would construct and operate a common infrastructure to support a broadband public safety network as well as its own commercial broadband network.[552]

273. Frontline's proposal is premised on the Commission adopting a number of measures the Commission has proposed, including: (a) designating 12 megahertz of the 700 MHz Public Safety spectrum from wideband to broadband use; (b) positioning that 12 megahertz of broadband public safety at the bottom of the public safety allocation in the 700 MHz Band; and (c) assigning this spectrum nationwide to a single national public safety broadband licensee.[553]

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[546] *See 700 MHz Guard Bands Notice; 700 MHz Public Safety Ninth Notice*; *700 MHz Public Safety Eighth Notice*.

[547] *See 700 MHz Commercial Services Notice*, 21 FCC Rcd at 9346-48 ¶¶ 1-2. This *Notice* sought comment on 78 megahertz of non-guard-band commercial wireless licenses (in the 698-746, 747-762, and 777-792 MHz bands), including the 60 megahertz that the Commission is required to auction pursuant to the DTV Act. Comment was sought on rules which include those concerning the size of service areas and spectrum blocks, performance requirements, access to spectrum in the secondary market, renewal, length of license term, power limits and related requirements, and 911/E911 and hearing aid-compatible handsets. *Id.* at 9362-90 ¶¶ 28-106.

[548] The 700 MHz Guard Bands consist of the A Block, comprised of paired 1-megahertz blocks (746-747, 776-777 MHz), and Guard Band B Block, comprised of paired 2-megahertz blocks (762-764, 792-794 MHz).

[549] Frontline Comments in PS Docket No. 06-229 at 20-21.

[550] *See supra* Section IV.B.2.

[551] *See* Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229, Attachment (proposing revisions to rules to designate frequencies).

[552] *See* Frontline Comments in PS Docket No. 06-229 at 5-6, 17, 19-20, 24; Frontline Mar. 6 Comments in WT Docket No. 06-150 at 7, 8, 10-12; Frontline Reply Comments in PS Docket No. 06-229 at 3-4; *see also* Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229, Attachment (proposed rules relating to Frontline proposal, including the Network Sharing Agreement).

[553] Frontline's proposal also would be premised on the adoption of additional matters being addressed in the *700 MHz Public Service Eighth Notice* and *700 MHz Public Safety Ninth Notice*. These include permitting the public (continued….)

274. With respect to the newly created "E Block," Frontline proposes imposing the following obligations, among others, on this nationwide licensee:

- The "E Block" licensee would be required to construct a common, interoperable network infrastructure that can be used by both the public safety broadband network and the "E Block" licensee's commercial network.[554] The details of the network would be specified in a Network Sharing Agreement negotiated by the "E Block" licensee and the National Public Safety Licensee.[555]
- The "E Block" licensee would be required to meet the following build-out benchmarks: provide coverage to 75 percent of the United States population within four years of the 700 MHz "auction clearing date"; provide coverage to 95 percent of the United States population within seven years; and provide coverage to 98 percent of the United States population within 10 years. As regards Alaska, the licensee would be required to provide coverage to all Alaskan cities of 10,000 or more within four years of the 700 MHz auction clearing date.[556]
- The "E Block" licensee would be responsible for managing and operating the public safety broadband network, and would be permitted to collect a reasonable network management fee. This fee, and the terms and conditions governing the "E Block" licensee's management of the network, would be specified in the Network Sharing Agreement.[557]
- The "E Block" licensee would be required to provide priority access to public safety broadband operations during times of emergency. These requirements would be specified in the Network Sharing Agreement.[558]

275. Frontline also sets forth several additional elements as part of its proposal. The term of the "E Block" license would be for 15 years, and would be subject to a renewal expectancy upon the

(Continued from previous page)
safety licensee to provide unconditionally preemptible access to its assigned spectrum to commercial service providers on a secondary basis, and facilitating the shared use of commercial mobile radio service (CMRS) infrastructure for the efficient provision of public safety broadband service. *See 700 MHz Public Safety Ninth Notice*, 21 FCC Rcd at 14838 ¶ 4.

[554] *See* Frontline Comments in PS Docket No. 06-229 at 5-6, 17, 19-20, 24; Frontline Mar. 6 Comments in WT Docket No. 06-150 at 7, 8, 10-12; Frontline Reply Comments in PS Docket No. 06-229 at 3-4; *see also* Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229, Attachment (proposed rules relating to Frontline proposal, including the Network Sharing Agreement).

[555] *See* Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229 at 3-7 & Attachment (proposed 47 C.F.R. § 27.4). Frontline's proposed rules would require that the "E Block" licensee "enter into good faith negotiations with the national public safety broadband licensee" regarding the Network Sharing Agreement, and, as part of that obligation, would require that the "E Block" Licensee "consult with the Public Safety Licensee on the design, construction, and operation of the shared network…." Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229, Attachment at 5.

[556] *Id*. Attachment at 3-4 (proposed 47 C.F.R. § 27.14). Under Frontline's original proposal, the build-out benchmarks were: 25 percent geographic coverage of the continental United States within four years of license grant; 50 percent geographic coverage of the continental United States within seven years of license grant; and 75 percent geographic coverage of the continental United States within ten years of license grant. *See* Frontline Comments in PS Docket No. 06-229 at 24-25. Frontline's current proposal provides that "auction clearing date" for purposes of the construction requirements "refers to the Analog Spectrum Recovery Firm Deadline provided for in Section 3002 of the Deficit Reduction Act of 2005." *See* Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229, Attachment at 3-4 (proposed 47 C.F.R. § 27.14).

[557] Frontline Comments in PS Docket No. 06-229 at 27-28.

[558] *Id*. at 28-29; Frontline Mar. 6 Comments in WT Docket No. 06-150 at 14-15; Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229 at 4.

completion of "substantial service."[559] It also states that participation by public safety would be purely voluntary, and that public safety would remain free to build its own network in the 700 MHz spectrum.[560] In addition, Frontline proposes that the "E Block" licensee should be required to operate as a wholesale provider with respect to commercial use of the "E Block" spectrum. Similarly, referencing a Petition recently filed by Skype Communications, Frontline proposes that the "E Block" licensee be required to provide open access to its network, allowing the attachment of any device to the network and permitting users to access services and content provided by unaffiliated parties. As proposed, this requirement would apply not only to the "E Block" license, but to all other licenses owned or controlled by the "E Block" licensee. [561] Similarly, Frontline recommends that the "E Block" licensee be required to offer roaming to any provider with customers utilizing devices compatible with the "E Block" network, and that such obligation be extended to all spectrum holdings of the "E Block" licensee.[562] Frontline supports the BOP, which would, among other things, eliminate the current Guard Band B Block and allocate additional spectrum to public safety, but also indicates that its proposal for the commercial 700 MHz Band is not dependent on any Commission action regarding the Guard Band B Block.[563]

276. Several parties have filed in response to the Frontline proposal.[564] For example, Media Access Project supports Frontline's proposal as being in the public interest, argues that it would ensure that public safety has access to needed spectrum in an efficient manner, and claims that a national license would provide affordable spectrum access.[565] CTIA requests that Frontline's proposal be dismissed, arguing, among other matters, that it is prohibited by Section 337 of the Communications Act.[566] MetroPCS opposes Frontline's proposal on several grounds, including that it is disruptive to the current

[559] Frontline Mar. 6 Comments in WT Docket No. 06-150 at 19-20; Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229, Attachment (proposed 47 C.F.R. § 27.13).

[560] Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229 at 5.

[561] *See* Frontline Comments in PS Docket No. 06-229 at 29-30 (referring to a petition by Skype Communications requesting that the Commission apply Carterphone principles to wireless networks. *See* Skype Communications, S.A.R.L. Petition to Confirm a Consumer's Right to Use Internet Communications Software and Attach Devices to Wireless Networks (filed Feb. 20, 2007)); Frontline Mar. Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229, Attachment (proposed rules).

[562] *See* Frontline Comments in PS Docket No. 06-229 at 18, 23; Frontline Mar. 6 Comments in WT Docket No. 06-150 at 21.

[563] *See* Frontline Comments in PS Docket No. 06-229 at 20-21; Frontline Mar. 6 Comments in WT Docket No. 06-150 at 11, n.13; Frontline March 16 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229, Attachment at 3-4. *See also* Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229, Attachment (proposed 47 C.F.R. § 27.5, which maintains existing frequencies for Guard Band blocks).

[564] *See* Reply Comments of MetroPCS Communications, Inc., PS Docket No. 06-229, WT Docket No. 96-86 (filed Mar. 12, 2007) ("MetroPCS Reply Comments in PS Docket No. 06-229 and WT Docket No. 96-86"); Reply Comments of the National Public Safety Telecommunications Council ("NPSTC"), Docket No. 06-229, WT Docket No. 96-86 (filed Mar. 12, 2007) ("NPSTC Reply Comments in PS Docket No. 06-229 and WT Docket No. 96-86"); Letter from Harold Feld, Senior Vice President , Media Access Project, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 05-211 and 06-150 and PS Docket No. 06-229 (filed Mar. 22, 2007) ("Media Access Project Mar. 22 *Ex Parte* in WT Docket Nos. 05-211 and 06-150 and PS Docket No. 06-229"); Response of MetroPCS Communications, Inc. to Untimely "Comments" of Frontline Wireless, LLC, WT Docket No. 06-150, CC Docket No. 94-102, WT Docket No. 01-309 (filed Mar. 26, 2007) ("MetroPCS Response in WT Docket No. 06-150, CC Docket No. 94-102, and WT Docket No. 01-309"); U.S. Cellular Mar. 27 *Ex Parte* in WT Docket Nos. 06-150, 06-169, 96-86, 05-265, and 00-139, and PS Docket No. 06-229.

[565] *See* Media Access Project Mar. 22 *Ex Parte* in WT Docket Nos. 05-211 and 06-150 and PS Docket No. 06-229 at 1.

[566] *See* Letter from Steve Largent, President and CEO, CTIA, to Chairman Kevin Martin, FCC, *Ex Parte* in WT Docket No. 06-150 (filed Apr. 5, 2007) ("CTIA Apr. 5 *Ex Parte* in WT Docket No. 06-150") at 2-3.

process for adopting rules for the 700 MHz Band, contains proposed "poison pill" rules that will make the spectrum unattractive to potential bidders, has wholesale operating restrictions that require unwarranted change to the current DE rules, potentially subjects public safety users to a provider that could exact unregulated user fees, and subjects public safety users to a potentially uncertain public/private partnership arrangement.[567] NPSTC states that Frontline's proposal should receive close examination, and expresses concern with leaving to the competitive bidding process the choice of an operator of a nationwide public service broadband network.[568] United States Cellular opposes adoption of Frontline's proposal, arguing, among other matters, that the proposal would "all but eliminate" competitive bidding for the spectrum and would restrict spectrum use.[569] The *Ad Hoc* Public Interest Spectrum Coalition supports Frontline's proposal to make the "E Block" available on an open access basis and requests that the Commission go further, making at least three of the 700 MHz commercial licenses (or 30 megahertz of spectrum) available on such a basis.[570]

277. Discussion. We seek comment on Frontline's proposed "Public Safety Broadband Deployment Plan," its likely effects on both the commercial and public safety users in the 700 MHz Band, and whether it would be in the public interest for the Commission to adopt such a proposal, or alternatives to achieve the same or similar public interest goals. We also seek comment on whether, and to what extent, the Commission should: (a) adopt certain, but not all, elements of the Frontline proposal; (b) modify any elements of the proposal, adopt any additional requirements, or adopt any alternative requirements to achieve the same or similar public interest goals; and (c) consider alternative approaches to encourage public-private partnerships for sharing spectrum between public safety users and commercial licensees in the 700 MHz Band.

278. We also seek comment on the extent to which adoption of the Frontline, or similar, proposal should have an impact on our decisions regarding the Guard Bands. Under Frontline's proposal, Guard Band B Block would be located between the new "E Block" and the public safety spectrum. We seek comment on whether the Guard Band B Block should be integrated with a new block of spectrum to be made available in the Upper 700 MHz Band for purposes of implementing the Frontline Plan or similar proposal.

279. Similarly, we seek comment here on the extent to which adoption of the Frontline, or similar, proposal should affect our decisions regarding the remainder of the commercial spectrum blocks in the Upper 700 MHz Band that we are required to auction. We ask that comments address Frontline's proposal in the context of our proposals expressed in this Further Notice regarding the size of spectrum blocks and geographic service areas, including a comparison of Frontline's proposal that the 757-762 MHz and 787-792 MHz spectrum be designated for the new "E Block." If the Commission adopted the Frontline proposal, the amount of spectrum to be auctioned for commercial services pursuant to flexible service and technical rules in the Upper and Lower 700 MHz Band would decrease by ten megahertz, from 60 to 50 megahertz.

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[567] *See* MetroPCS Response in WT Docket No. 06-150, CC Docket No. 94-102, and WT Docket No. 01-309 at 1.

[568] *See* NPSTC Reply Comments in PS Docket No. 06-229 and WT Docket No. 96-86 at 7.

[569] *See* U.S. Cellular Mar. 27 *Ex Parte* in WT Docket Nos. 06-150, 06-169, 96-86, 05-265, and 00-139, and PS Docket No. 06-229 at 2.

[570] *See Ex Parte* Comments of the *Ad Hoc* Public Interest Spectrum Coalition, filed by Larry Blosser, counsel to Consumers Union and Free Press, PS Docket No. 06-229 and WT Docket Nos. 06-150, 05-211, 96-86 (filed Apr. 5, 2007) ("PISC Apr. 5 Blosser *Ex Parte* in PS Docket No. 06-229 and WT Docket Nos. 06-150, 05-211, 96-86"). *See also* PISC Apr. 3 *Ex Parte* Comments in PS Docket No. 06-229 and WT Docket Nos. 06-150, 05-211, 96-86; *Ex Parte* Comments of the *Ad Hoc* Public Interest Spectrum Coalition, filed by Gigi Sohn, counsel for Public Knowledge, PS Docket No. 06-229 and WT Docket Nos. 06-150, 05-211, 96-86 (filed Apr. 5, 2007) ("PISC Apr. 5 Sohn *Ex Parte* in PS Docket No. 06-229 and WT Docket Nos. 06-150, 05-211, 96-86").

280. We seek comment as well on Frontline's view that there is no need to impose any CALEA, E911, or similar obligations on the "E Block" licensee because it believes that retail service providers using the "E Block" spectrum will already be subject to those requirements.[571] Should we adopt any specific requirements applicable to retail service providers or equipment manufacturers in regard to the "E Block?" For example, should some or all public safety equipment operating on an "E Block" built network be capable of accessing satellite communications (including handsets and other mobile or fixed receivers)? Should we require the "E Block" licensee to incorporate satellite-based technology into its network infrastructure?

281. *Network Sharing Agreement.* We note Frontline's view that the proposed "E Block" licensee and a potential national public safety licensee would have strong incentives to reach agreement on suitable terms for a lease and that the Commission should not attempt to adopt detailed rules to implement its proposal but should rely on a requirement that the "E Block" licensee negotiate in good faith.[572] Frontline proposes that the Commission should leave to the "Network Sharing Agreement" negotiations the definition of "emergency" for purposes of the requirement that the "E Block" licensee provide priority access to affected public safety broadband operations during emergencies.[573]

282. We tentatively conclude that, if we adopt Frontline's proposal or some similar proposal, we will need to impose conditions on the "E Block" license as well as the national public safety license to deal with the circumstance where the bidder winning the new "E Block" at auction and the national public safety licensee are unable to reach agreement on a Network Sharing Agreement. Successful negotiation of that agreement is a critical first step to achieving the benefits to public safety under the Frontline proposal. We are concerned that under certain circumstances the parties may not be able to reach agreement, which could result in a significant delay in implementation. To avoid this result, we tentatively conclude that the Commission would not grant a license to the bidder winning the "E Block" at auction until the winning bidder files a Network Sharing Agreement with the Commission for approval. We would also condition the national public safety license on the licensee submitting to binding arbitration in the event it cannot reach agreement with the "E Block" winner. If the winning bidder and the national public safety licensee are unable to reach agreement, they would be required to enter into binding arbitration to resolve outstanding issues.

283. We seek comment on this tentative conclusion, and whether imposing such conditions would be an incentive for the parties to reach a suitable and speedy resolution in order to avoid arbitration. If the parties are unable to reach an agreement and thus have to submit to binding arbitration, would this condition then facilitate the ability of the parties to reach such an agreement? We seek comment on whether any particular requirements should be adopted in connection with such conditions, including a requirement that the parties report to the Commission on the status of the negotiations. We also ask commenters to consider whether there are other conditions that should be placed on an "E Block" licensee to ensure that an agreement is reached quickly and in a manner that is satisfactory to public safety, or if there is additional oversight that the Commission should exercise. Should we require that an agreement to be reached by a certain date? Should the Commission require status reports or other periodic reporting from the "E Block" licensee? If we do not adopt a binding arbitration proposal, what should be the consequence for failing to reach agreement in a timely manner, or for otherwise failing to comply with the Network Sharing Agreement requirement? Should the Commission have authority to appoint board members to the governance of the "E Block" licensee?

284. *Bidding Preferences.* We also have serious concerns, based on Frontline's proposed requirements, about whether we should offer any bidding preferences, such as bidding credits, to

[571] *See* Frontline Mar. 26 Ex Parte in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229 at 8.

[572] *Id.* at 4-5.

[573] *Id.* at 6.

applicants for the "E Block" license, based on their status as a small business, or designated entity. In authorizing the Commission to use competitive bidding, Congress mandated that the Commission "ensure that small businesses, rural telephone companies, and businesses owned by members of minority groups and women [sometimes referred to as "designated entities"] are given the opportunity to participate in the provision of spectrum-based services."[574] In addition, 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."[575] One of the means by which the Commission fulfills this mandate is through the award of bidding credits to small businesses. The Commission stated that it would define eligibility requirements for small businesses on a service-specific basis, taking into account the capital requirements and other characteristics of each particular service in establishing the appropriate threshold.[576] The Commission has also stated that, while it standardizes many auction rules, the Commission will continue a service-by-service approach when it comes to defining small businesses.[577]

285. The capital requirements for effective use of the proposed nationwide "E Block" license likely will be very high. In the past, the Commission has declined to adopt designated entity provisions for certain services, such as the direct broadcast satellite service and the digital audio radio service, which have extremely high implementation costs.[578] The Commission reached this conclusion in large part because it was unclear whether small businesses could attract the capital necessary to implement and provide a nationwide service.[579]

286. Our concerns regarding the capital needed to implement a nationwide service are especially acute in this instance because the "E Block" licensee would be responsible for constructing a robust network to meet the needs of critical public safety service providers – and the public – in times of emergency. The public interest would not appear to favor giving applicants a preference when bidding for the "E Block" license based on their limited financial resources, as we do when we offer bidding credits to small businesses, in these circumstances.

287. The proposed restriction on such a licensee's ability to provide spectrum-based services directly to the public is also of concern when considering whether to offer such benefits. The

[574] 47 U.S.C. § 309(j)(4)(D).

[575] 47 U.S.C. § 309(j)(3)(B).

[576] 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) (*Competitive Bidding Second Memorandum Opinion and Order*); 47 C.F.R. § 1.2110(c)(1).

[577] Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures, WT Docket No. 97-82, *Third Report and Order and Second Further Notice of Proposed Rule Making*, 13 FCC Rcd 374, 388 ¶ 18 (1997) ("Part 1 Third Report and Order"); 47 C.F.R. § 1.2110 (c)(1).

[578] Revision of Rules and Policies for the Direct Broadcast Satellite Service, IB Docket No. 95-168, PP Docket No. 93-253, *Report and Order*, 11 FCC Rcd 9712 (1995) (*DBS Auction Order*); Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Band, IB Docket No. 95-91, *Report and Order, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 12 FCC Rcd 5754 (1997) (*DARS Auction Order*).

[579] *See DBS Auction Order,* 11 FCC Rcd at 9799 ¶ 217; *DARS Auction Order,* 12 FCC Rcd at 5824-26 ¶¶ 174-176. We also note that the legislative history of the designated entity provisions of section 309(j) demonstrates that Congress did not necessarily intend the Commission to adopt special measures for designated entities in nationwide services. The House Report to the Omnibus Budget Reconciliation Act of 1993 states that "[t]he characteristics of some services are inherently national in scope, and are therefore ill-suited for small businesses." H.R. Rep. No. 103-111, 103rd Cong., 1st Sess., at 254.

Commission prohibits licensees from both receiving designated entity benefits and having wholesale agreements for more than fifty percent (50%) of the spectrum capacity of any license that they hold, which are defined as impermissible material relationships.[580] Frontline proposes that the "E Block" licensee should be required to operate only as a wholesale provider with respect to commercial use of the "E Block" license, *i.e.*, that it must have wholesale agreements for one hundred percent (100%) of its spectrum capacity. In the event that we offered bidding preferences with respect to such an "E Block" license, the existing rule plainly would preclude any licensee that is required to operate only as a wholesale provider from receiving designated entity benefits.

288. When it adopted the current impermissible material relationship rule, the Commission stated that it did so "to ensure that, in accordance with the intent of Congress, every recipient of our designated entity benefits is an entity that uses its licenses to directly provide facilities-based telecommunications services for the benefit of the public."[581] A party holding the "E Block" license, as proposed by Frontline's proposal, would not be directly providing facilities-based telecommunications services for the benefit of the public. For all these reasons, we have serious concerns about providing designated entity benefits for the "E Block" license proposed by Frontline, and we seek comment on this issue.

289. *Other Issues.* We seek comment on whether any service specific rules are needed to address what actions the Commission may or must take in the event that the "E Block" licensee encounters financial or other problems that prevent compliance with any of its obligations, regarding build-out or other duties. Frontline contends that the Commission's general rules regarding reclaiming and re-auctioning the spectrum are sufficient to address this possibility.[582] We seek comment on whether the particular obligations proposed for the "E Block" would make additional provisions in the public interest. For example, should there be some special process for public safety entities or others to challenge the "E Block" licensee's compliance with its public safety or wholesale obligations? Should the "E Block" license cancel automatically based on failure to comply with specified obligations? Should the Commission establish an unjust enrichment requirement to be paid in the event the Commission is unable to reclaim the license for any reason upon failure of the "E Block" licensee to comply with its obligations? If so, how should the amount of such a payment be calculated?[583] If the Commission were to reclaim the license, could it also hold any network infrastructure built by the licensee in trust for public safety to avoid interruption of service to first responders? Alternatively, should the Commission provide for a rebate of a portion of the net bid amount paid by the "E Block" licensee at auction upon satisfaction of the conditions of the license and, if so, what should be the amount of such rebate? What other enforcement mechanisms might be appropriate?

290. We also seek comment on Frontline's proposal that the "E Block" licensee be required to operate a wholesale network.[584] Frontline claims that this requirement would encompass freedom of

[580] 47 C.F.R. 1.2110(b)(3)(iv)(A).

[581] Implementation of the Commercial Spectrum Enhancement Act and Modernization of the Commission's Competitive Bidding Rules and Procedures, *Second Report and Order and Second Further Notice of Proposed Rule Making*, 21 FCC Rcd 4753, 4760 ¶15 (2006).

[582] Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229 at 8.

[583] In this regard, we note that the Commission has collected unjust enrichment obligations, under its existing unjust enrichment rules in section 1.2111, from bankrupt licensees, even where the protections afforded by section 525 of the United States Bankruptcy Code prevented the automatic cancellation of the license for failure to render timely payment pursuant to the Commission's installment payment rules of section 1.2110(g)(iv). *See* 47 C.F.R. § 1.2111; 11 U.S.C. § 525; 47 C.F.R. § 1.2110(g)(iv).

[584] *See* Frontline Comments in PS Docket No. 06-229 at 29-31; Frontline Mar. 6 Comments in WT Docket No. 06-150 at 16-19. *See also* Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229, Attachment (Frontline's proposed 47 C.F.R. § § 27.16, 27.51).

equipment choice concerning the attachment of devices or multiple devices to the network.[585] It also states that this proposal would provide non-discriminatory access, and that the "E Block" licensee could not discriminate against any retail service provider, [586] and would operate "as an open network available on a wholesale basis to a host of innovative service providers."[587] We seek comment on these issues. We also seek comment on proposals filed by Media Access Project and the Ad Hoc Public Interest Spectrum Coalition, which support a condition on licenses for at least 30 megahertz of 700 MHz Commercial Services spectrum that would require a licensee to provide "open access," including the right of a consumer to use any equipment, content, application or service on a non-discriminatory basis.[588]

V. PROCEDURAL MATTERS

A. Final Regulatory Flexibility Analysis

291. Pursuant to the Regulatory Flexibility Act of 1980, as amended (RFA),[589] the Final Regulatory Flexibility Analysis (FRFA) for the Report and Order is set forth in Appendix C. Although Section 213 of the Consolidated Appropriations Act 2000 provides that the RFA shall not apply to the rules and competitive bidding procedures for frequencies in the 746-806 MHz Band,[590] we nevertheless believe that it would serve the public interest to analyze the possible significant economic impact of the proposed policy and rule changes in this band on small entities. Accordingly, the FRFA in Appendix C of this Report and Order includes an analysis of this impact in connection with all spectrum that falls within the scope of the Report and Order, including spectrum in the 746-806 MHz Band.

B. Final Paperwork Reduction Act of 1995 Analysis

292. The Report and Order contains modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the new information collection requirements contained in this proceeding. Public and agency comments are due sixty days from publication of a summary of the 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 respondents, including the use of automated collection techniques or other forms of information technology. In addition, the Commission notes that pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. 3506(c)(4), we previously sought specific comment on how the Commission might "further reduce the information collection burden for small business concerns with fewer than 25 employees." In this present document, we have assessed the potential effects of the various policy

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[585] *See* Frontline Comments in PS Docket No. 06-229 at 30; Frontline Mar. 6 Comments in WT Docket No. 06-150 at 16-17.

[586] Frontline Mar. 6 Comments in WT Docket No. 06-150 at 17.

[587] *Id.* at 18.

[588] *See* Media Access Project Mar. 22 *Ex Parte* in WT Docket Nos. 05-211 and 06-150 and PS Docket No. 06-229; *Ad Hoc* Public Interest Spectrum Coalition Apr. 5 *Ex Parte* in PS Docket No. 06-229, WT Docket Nos. 06-150, 05-211, 96-86, at 8.

[589] *See* 5 U.S.C. § 604.

[590] In particular, this exemption extends to the requirements imposed by Chapter 6 of Title 5, United States Code, Section 3 of the Small Business Act (15 U.S.C. 632) and Sections 3507 and 3512 of Title 44, United States Code. Consolidated Appropriations Act 2000, Pub. L. No. 106-113, 113 Stat. 2502, Appendix E, Sec. 213(a)(4)(A)-(B); *see* 145 Cong. Rec. H12493-94 (Nov. 17, 1999); 47 U.S.C.A. 337 note at Sec. 213(a)(4)(A)-(B).

changes with regard to information collection burdens on small business concerns, and find that there are no results specific to businesses with fewer than 25 employees. We note, however, that Section 213 of the Consolidated Appropriations Act 2000 provides that rules governing frequencies in the 746-806 MHz Band become effective immediately upon publication in the Federal Register without regard to certain sections of the Paperwork Reduction Act.[591] We are therefore not inviting comment on any information collections that concern frequencies in the 746-806 MHz Band.

C. Initial Regulatory Flexibility Analysis

293. As required by the Regulatory Flexibility Act (RFA), *see* 5 U.S.C. 603, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules addressed in the Further Notice. The IRFA is set forth in Appendix D. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines as comments filed in response to the Further Notice, and must have a separate and distinct heading designating them as responses to the IRFA. Although Section 213 of the Consolidated Appropriations Act 2000 provides that the RFA shall not apply to the rules and competitive bidding procedures for frequencies in the 746-806 MHz Band,[592] we nevertheless believe that it would serve the public interest to analyze the possible significant economic impact of the proposed policy and rule changes in this band on small entities. Accordingly, the IRFA in Appendix C of the Further Notice includes an analysis of (and seeks comment on) this impact in connection with all spectrum that falls within the scope of the Further Notice, including spectrum in the 746-806 MHz Band.

D. Initial Paperwork Reduction Act Analysis of 1995 Analysis

294. This document contains proposed new or modified information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. Public and agency comments are due 30 days after date of publication in the Federal Register. Comments should address: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. 3506(c)(4), we seek specific comment on how we might "further reduce the information collection burden for small business concerns with fewer than 25 employees." In this present document, we have assessed the potential effects of the various proposals with regard to information collection burdens on small business concerns, and find that there are no results specific to businesses with fewer than 25 employees. We note, however, that Section 213 of the Consolidated Appropriations Act 2000 provides that rules governing frequencies in the 746-806 MHz Band become effective immediately upon publication in the Federal Register without regard to certain sections of the Paperwork Reduction Act.[593] We are therefore not inviting comment on any information collections that concern frequencies in the 746-806 MHz Band.

[591] *Id*.

[592] *Id*.

[593] *Id*.

E. Other Procedural Matters

1. Ex Parte Presentations

295. The rulemaking shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.[594] Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentations must contain summaries of the substance of the presentations and not merely a listing of the subjects discussed. More than a one or two sentence description of the views and arguments presented generally is required.[595] Other requirements pertaining to oral and written presentations are set forth in Section 1.1206(b) of the Commission's rules.[596]

2. Comment Filing Procedures

296. Pursuant to Sections 1.415 and 1.419 of the Commission's rules,[597] interested parties may file comments on or before 21 days after publication of the Further Notice in the Federal Register and reply comments regarding the Further Notice may be filed on or before 28 days after publication of the Further Notice in the Federal Register. All filings related to this Further Notice should refer to WT Docket No. 06-150, WT Docket No. 06-169, PS Docket No. 06-229, and WT Docket No. 96-86. Comments may be filed using: (1) the Commission's Electronic Comment Filing System (ECFS), (2) the Federal Government's eRulemaking Portal, or (3) by filing paper copies.[598]

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: http://www.fcc.gov/cgb/ecfs/ or the Federal eRulemaking Portal: http://www.regulations.gov. Filers should follow the instructions provided on the website for submitting comments.
    - ECFS filers must transmit one electronic copy of the comments for WT Docket No. 06-150, WT Docket No. 06-169, PS Docket No. 06-229, and WT Docket No. 96-86. In completing the transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and WT Docket No. 06-150, WT Docket No. 06-169, PS Docket No. 06-229, and WT Docket No. 96-86. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions, filers should send an e-mail to ecfs@fcc.gov and include the following words in the body of the message, "get form." A sample form and directions will be sent in response.
- Paper Filers: Parties who choose to file by paper must file an original and four copies of each filing. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission's Secretary, Marlene H. Dortch, Office of the Secretary, Federal Communications Commission, 445 12th Street, S.W., Washington, DC, 20554.
    - The Commission's contractor will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, N.E., Suite 110, Washington, DC 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All

[594] 47 C.F.R. §§ 1.200 *et. seq.*

[595] *See* 47 C.F.R. § 1.1206(b)(2).

[596] 47 C.F.R. § 1.1206(b).

[597] 47 C.F.R. §§ 1.415, 1.419.

[598] *See* Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121 (1998).

hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.

- U.S. Postal Service first-class, Express, and Priority mail should be addressed to 445 12th Street, S.W., Washington DC 20554.

297. Parties should send a copy of their filings to: Paul D'Ari, Wireless Telecommunications Bureau, 445 12th Street, S.W., Washington, D.C. 20554, or by e-mail to paul.dari@fcc.gov; Linda Chang, Wireless Telecommunications Bureau, 445 12th Street, S.W., Washington, D.C. 20554, or by e-mail to linda.chang@fcc.gov; and Jeff Cohen, Public Safety and Homeland Security Bureau, 445 12th Street, S.W., Washington, D.C. 20554, or by e-mail to jeff.cohen@fcc.gov. Parties shall also serve one copy with the Commission's copy contractor, Best Copy and Printing, Inc. (BCPI), Portals II, Room CY-B402, 445 12th Street, S.W., Washington, D.C. 20554, (202) 488-5300, or via e-mail to fcc@bcpiweb.com.

298. Documents in WT Docket No. 06-150, WT Docket No. 06-169, PS Docket No. 06-229, and WT Docket No. 96-86 will be available for public inspection and copying during business hours at the FCC Reference Information Center, Portals II, Room CY-A257, 445 12th Street, S.W., Washington, D.C. 20554. The documents may also be purchased from BCPI, telephone (202) 488-5300, facsimile (202) 488-5563, TTY (202) 488-5562, e-mail fcc@bcpiweb.com.

3. Accessible Formats

299. To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to FCC504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (TTY). Contact the FCC to request reasonable accommodations for filing comments (accessible format documents, sign language interpreters, CARTS, *etc*.) by e-mail: FCC504@fcc.gov; phone: 202-418-0530 (voice), 202-418-0432 (TTY).

VI. ORDERING CLAUSES

300. Accordingly, IT IS ORDERED that pursuant to sections Sections 1, 4(i), 7, 10, 201, 202, 208, 214, 215, 222(d)(4)(A)-(C), 222(f), 222(g), 222(h)(1)(A), 222(h)(4)-(5), 251(e)(3), 301, 303, 307, 308, 309, 310, 311, 315, 316, 317, 324, 331, 332, 336, 337 and 710, of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 157, 160, 201, 202, 208, 214, 215, 222(d)(4)(A)-(C), 222(f), 222(g), 222(h)(1)(A), 222(h)(4)-(5), 251(e)(3), 301, 303, 307, 308, 309, 310, 311, 315, 317, 324, 331, 332, 336, 337, and 610, this REPORT AND ORDER in WT Docket No. 06-150, CC Docket No. 94-102, WT Docket No. 01-309, WT Docket No. 03-264, WT Docket No. 06-169, WT Docket No. 96-86 and PS Docket No. 06-229 IS ADOPTED, and that Part 1, Part 20, Part 27 and Part 90 of the Commission's rules, 47 C.F.R. Part 1, 47 C.F.R. Part 20, 47 C.F.R. Part 27 and 47 C.F.R. Part 90, ARE AMENDED as set forth in Appendix B. The REPORT AND ORDER shall become effective upon publication in the Federal Register subject to OMB approval for new information collection requirements.

301. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs 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.

302. IT IS FURTHER ORDERED that the Commission SHALL SEND a copy of this REPORT AND ORDER in a report to be sent to Congress and the General Accounting Office pursuant to the Congressional Review Act, 5 U.S.C. § 801(a)(1)(A).

303. IT IS FURTHER ORDERED pursuant to sections 1, 2, 4(i), 5(c), 7, 10, 201, 202, 208, 214, 301, 302, 303, 307, 308, 309, 310, 311, 314, 316, 319, 324, 332, 333, 336, 337, 614, 615, and 710 of

the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 152, 154(i), 155(c), 157, 160, 201, 202, 208, 214, 301, 302, 303, 307, 308, 309, 310, 311, 314, 316, 319, 324, 332, 333, 336, and 337, that this FURTHER NOTICE OF PROPOSED RULEMAKING in WT Docket No. 06-150, CC Docket No. 94-102, WT Docket No. 01-309, WT Docket No. 03-264, WT Docket No. 06-169, WT Docket No. 96-86 and PS Docket No. 06-229 IS ADOPTED. The FURTHER NOTICE OF PROPOSED RULEMAKING shall become effective upon publication in the Federal Register.

304. IT IS FURTHER ORDERED that pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's Rules, 47 C.F.R. §§ 1.415, 1.419, interested parties may file comments on the FURTHER NOTICE OF PROPOSED RULEMAKING on or before 21 days after publication in the Federal Register and reply comments on or before 28 days after publication in the Federal Register.

305. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this FURTHER NOTICE OF PROPOSED RULEMAKING, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

306. IT IS FURTHER ORDERED that the Commission SHALL SEND a copy of this FURTHER NOTICE OF PROPOSED RULEMAKING in a report to be sent to Congress and the General Accounting Office pursuant to the Congressional Review Act, 5 U.S.C. § 801(a)(1)(A).

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

Comments and Reply Comments

List of Comments and Reply Comments in the 700 MHz Commercial Services Proceeding (WT Docket No. 06-150, CC Docket N0. 94-102, WT Docket No. 01-39)

Comments

Access Spectrum LLC, Columbia Capital III, LLC, Pegasus Communications Corporation, and Telcom Ventures, LLC ("Access Spectrum/Pegasus")
Aloha Partners, L.P. ("Aloha")
Alltel, Aloha, Blooston, C&W, ConnectME Authority, Corr, Dobson, Leap, Maine Office of Chief Information Officer, MetroPCS, NTCA, Nebraska PSC, North Dakota PSC, RCA, RTG, Union, U.S. Cellular, Vermont et al., Vermont Telephone Company ("Alltel *et al.*") (filing the "Balanced Consensus Plan")
AT&T Inc. ("AT&T")
Blooston Rural Carriers ("Blooston")
C&W Enterprises ("C&W")
Cingular Wireless LLC ("Cingular")
Consumer Federation of America, Consumers Union, and Free Press ("Consumer Federation of America, et al.")
Corr Wireless Communications, LLC ("Corr")
Council Tree Communications, Inc. ("Council Tree")
CTIA – The Wireless Association ("CTIA")
DIRECTV, Inc. and EchoStar Satellite L.L.C. ("DIRECTV/EchoStar")
Dobson Communications Corporation ("Dobson")
Doug Howard and Farooq Javed ("Howard/Javed")
Frontier Communications ("Frontier")
Hearing Industries Association ("Hearing Industries Association")
Hearing Loss Association of America ("Hearing Loss Association")
Leap Wireless International, Inc. ("Leap")
MetroPCS Communications, Inc. ("MetroPCS")
MilkyWay Broadband, LLC ("MilkyWay")
Motorola, Inc. ("Motorola")
National Telecommunications Cooperative Association ("NTCA")
Navajo Nation Telecommunications Regulatory Commission ("Navajo Nation")
Navini Networks, Inc. ("Navini")
National Emergency Number Association ("NENA")
NextWave Broadband Inc. ("NextWave")
Organization for the Promotion and Advancement of Small Telecommunications Companies ("OPASTCO")
Paul Milgrom and Karen Wrege ("Milgrom/Wrege")
Polar Communications ("Polar")
Qualcomm Incorporated ("Qualcomm").
Region 24 700 MHz Regional Planning Committee ("Region 24")
Rural Cellular Association ("RCA")
Rural Telecommunications Group, Inc. ("RTG")
Sprint NexTel Corportion ("Sprint NexTel")
Telecommunications Industry Association ("TIA")
Tropos Networks ("Tropos")

Union Telephone Company ("Union")
United States Cellular Corporation ("U.S. Cellular")
Verizon Wireless ("Verizon Wireless")
Vermont Department of Public Service, Vermont Public Service Board, Vermont Office of the Chief Information Officer, North Dakota Public Service Commission, Nebraska Public Service Commission, ConnectME Authority, Maine Office of the Chief Information Officer ("Vermont Department of Public Service, et al.")

Reply Comments

Alcatel North America ("Alcatel")
AllTel Corporation ("AllTel")
Aloha Partners, L.P. ("Aloha")
Association for Maximum Service Television, Inc. and National Association of Broadcasters ("MSTV/NAB")
Association of Public-Safety Communications Officials-International, Inc., International Association of Fire Chiefs, Major Cities Chiefs Association, Major County Sheriffs Association, and National Sheriffs Association ("Public Safety Organizations")
AT&T Inc. ("AT&T")
Blooston Rural Carriers ("Blooston")
Cingular Wireless LLC ("Cingular")
Corr Wireless Communications, LLC ("Corr")
Council Tree Communications, Inc. ("Council Tree")
CTIA – The Wireless Association ("CTIA")
Cyren Call Communications Corporation ("Cyren Call")
DIRECTV, Inc. and EchoStar Satellite L.L.C. ("DIRECTV/EchoStar")
Doug Howard and Farooq Javed ("Howard/Javed")
Hearing Industries Association ("Hearing Industries Association")
Leap Wireless International, Inc. ("Leap")
MetroPCS Communications, Inc. ("MetroPCS")
Motorola, Inc. ("Motorola")
National Telecommunications Cooperative Association ("NTCA")
NextWave Broadband Inc. ("NextWave")
Multiple Parties (filing Balanced Consensus Plan) ("Balanced Consensus Plan")
Paul Milgrom and Karen Wrege ("Milgrom/Wrege")
Qualcomm Incorporated ("Qualcomm")
Region 24 700 MHz Regional Planning Committee ("700 MHz Regional Planning Committee")
Rural Cellular Association ("RCA")
Rural Telecommunications Group, Inc. ("RTG")
T-Mobile USA, Inc. ("T-Mobile")
Tropos Networks ("Tropos")
United States Cellular Corporation ("U.S. Cellular")
Verizon Wireless ("Verizon Wireless")
Vermont Department of Public Service, Vermont Public Service Board, Vermont Office of the Chief Information Officer, North Dakota Public Service Commission, Nebraska Public Service Commission, ConnectME Authority, Maine Office of the Chief Information Officer ("Vermont Department of Public Service, et al.")
Vermont Telephone Company, Inc. ("Vermont Telephone")
WiMAX Forum ("WiMAX Forum")

List of Comments and Reply Comments in 700 MHz Guard Bands Proceeding
(WT Docket No. 06-169)

Comments

Access Spectrum, LLC and Pegasus Communications ("Access Spectrum/Pegasus")
Access Spectrum, LLC and Pegasus Communications/700 MHz Technical Working Group ("700 MHz TWG")
Association of Public Safety Communications Officials-International (APCO)
Commonwealth of Virginia ("CoVa")
Critical Infrastructure Communications Coalition ("CICC")
CTIA – The Wireless Association ("CICC")
Enterprise Wireless Alliance ("EWA")
Ericsson Inc. ("Ericsson")
G. Edward Ryan, II
Gary P. McKelvey
Gregory J. Urban – State of Maryland ("State of Maryland")
Motorola, Inc. ("Motorola")
National Public Safety Telecommunications Council ("NPSTC")
Prince George's County, Maryland ("Prince George's County")
Radiofone Nationwide PCS, L.L.C. ("Radiofone")
Region 24 700 MHz Regional Planning Committee ("Region 24")
Verizon Wireless ("Verizon Wireless")

Reply Comments

Access Spectrum, LLC and Pegasus Communications ("Access Spectrum/Pegasus")
Access Spectrum, LLC and Pegasus Communications/700 MHz Technical Working Group ("700 MHz TWG")
Arcadian Networks ("Arcadian")
Cyren Call Communications Corporation ("Cyren Call")
Ericsson Inc. ("Ericsson")
Lucent Technologies, Inc. ("Lucent")
National Public Safety Telecommunications Council ("NPSTC")
Northrop Grumman Information Technology ("Northrop Grumman")
Prince George's County, Maryland ("Prince George's County")
Region 20 RPC, Region 42 RPC, State of Maryland, Commonwealth of Virginia
Region 24 700 MHz Regional Planning Committee ("Region 24")
Regional Planning Committee 42 ("Region 42")
Stafford County, VA Sheriff's Department ("Stafford County")
United Telecom Council ("UTC")

List of Comments and Reply Comments in the 700 MHz Public Safety Proceeding
(WT Docket No. 96-86)

3G Americas, LLC ("3G Americas")
Access Spectrum, LLC ("Access Spectrum")
Alan Bull ("Alan Bull")
Association of Public Safety Communications Officials-International, Inc. ("APCO")
California Highway Patrol ("CHP")
City and County of Denver Colorado ("Denver")
Columbia Capital III, LLC ("Columbia Capital")

Cyren Call Communications Corporation (“Cyren Call”)
DataRadio (“DataRadio”)
EADS Public Safety, Inc. (“EADS”)
Enterprise Wireless Alliance (“EWA”)
Ericsson, Inc. (“Ericsson”)
Intel Corporation (“Intel”)
Intelligent Transportation Society of America (“ITS”)
International Association of Chiefs of Police (“IACP”)
International Association of Fire Chiefs (“IAFC”)
Joe Kuran (“Joe Kuran”)
Lockheed Martin Corporation (“Lockheed Martin”)
Lucent Technologies, Inc. (“Lucent”)
M/A-COM, Inc. (“M/A-COM”)
Major Cities Chiefs Association (“MCCA”)
Motorola, Inc. (“Motorola”)
National Association of Regional Planning Committees (“NARPC”)
National Emergency Number Association (“NENA”)
National Public Safety Telecommunications Council (“NPSTC”)
National Sheriffs Association, Major Cities Sheriffs Association (“NSA/MCSA”)
North Carolina State Highway Patrol (“NCSHP”)
Northrop Grumman Information Technology, Inc. (“Northrop Grumman”)
Ohio State-Wide Interoperability Executive Committee (“Ohio SIEC”)
Pegasus Communications Corporation (“Pegasus”)
Pinellas County Emergency Communications (“Pinellas County”)
Qualcomm, Inc. (“Qualcomm”)
Radiofone Nationwide PCS, LLC (“Radiofone”)
Region 12 700 MHz Regional Planning Committee (“Region 12”)
Region 24 700 MHz Regional Planning Committee (“Region 24”)
Region 26 700 MHz Regional Planning Committee (“Region 26”)
Region 39 700 MHz Regional Planning Committee (“Region 39”)
Region 40 700 MHz Regional Planning Committee (“Region 40”)
Region 45 700 MHz Regional Planning Committee (“Region 45”)
Region 49 700 MHz Regional Planning Committee (“Region 49”)
Spectrum Coalition for Public Safety (“Spectrum Coalition”)
Sprint Nextel Corporation (“Sprint Nextel”)
State of California: Department of General Services-Telecommunications Division (“State of California”)
State of Hawaii: Department of Accounting and General Services (“State of Hawaii”)
WiMax Forum (“WiMax Forum”)

APPENDIX B

Rule Changes

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

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

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

2. Section 1.955 is amended by revising paragraph (a)(1) to read as follows:

§ 1.955 Termination of Authorizations

(a) *****
(1) *Expiration*. Authorizations automatically terminate, without specific Commission action, on the expiration date specified therein, unless a timely application for renewal is filed. *See* § 1.949 of this part. No authorization granted under the provisions of this part shall be for a term longer than ten years, except to the extent a longer term is authorized under § 27.13 of Part 27 of this chapter.

3. Section 1.9005 is amended by revising paragraphs (gg) and (hh) and adding paragraph (ii) to read as follows:

§ 1.9005 Included services.

* * * * *
(gg) The Common Carrier Fixed Point-to-Point Microwave Service (part 101 of this chapter);

(hh) The Multipoint Video Distribution and Data Service (part 101 of this chapter); and,

(ii) The 700 MHz Guard Bands Service (part 27 of this chapter).

Part 20 of Title 47 of the Code of Federal Regulations is amended as follows:

4. The authority citation for Part 20 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 160, 201, 251-254, 303, and 332 unless otherwise noted.

5. Section 20.18 is amended by revising paragraph (a) to read as follows:

§ 20.18 911 Service.

(a) *Scope of Section*. The following requirements are only applicable to CMRS providers, excluding mobile satellite service (MSS) operators, to the extent that they (1) offer real-time, two way switched voice service that is interconnected with the public switched network and (2) utilize an in-network switching facility that enables the provider to reuse frequencies and accomplish seamless hand-offs of subscriber calls. These requirements are applicable to entities that offer voice service to consumers by purchasing airtime or capacity at wholesale rates from CMRS licensees.

* * * * *

6. Section 20.19 is amended by revising paragraphs (a) and (b) as follows:

§ 20.19 Hearing aid-compatible mobile handsets.

(a) *Scope of Section*. Providers of digital CMRS are subject to hearing aid-compatibility requirements to the extent that they (1) offer real-time, two way switched voice or data service that is interconnected with the public switched network and (2) utilize an in-network switching facility that enables the provider to reuse frequencies and accomplish seamless hand-offs of subscriber calls. Such providers are subject to the requirements set forth in this section to the extent that the established technical standard or standards specified in paragraph (b) are applicable to the service provided. This section also applies to the manufacturers of the wireless phones used in delivery of the services specified in this paragraph.

(b) *Technical standard for hearing aid compatibility*. The technical standard set forth in the standard document ANSI C63.19-2001 "American National Standard for Methods of Measurement of Compatibility between Wireless Communication Devices and Hearing Aids, ANSI C63.19-2001" (published October 8, 2001—available for purchase from the American National Standards Institute) is applicable to providers of Broadband Personal Communications Services (part 24, subpart E of this chapter), Cellular Radio Telephone Service (part 22, subpart H of this chapter), and Specialized Mobile Radio Services in the 800 MHz and 900 MHz bands (including in part 980, subpart S of this chapter). A wireless phone used for these services is hearing aid compatible for the purposes of this section if it meets, at a minimum:

* * * * *

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

7. 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.

8. The table of contents for Part 27 is amended by revising Subpart F and Subpart G as follows:

* * *

Subpart F – Competitive Bidding Procedures for the 698-806 MHz Band

* * *

Subpart G – Guard Band Service (746-747/776-777 MHz and 762-764/792-794 MHz Bands)

* * * * *

9. Section 27.4 is amended by deleting the definition of Guard Band Manager.
.

10. Section 27.10 is amended by revising the introductory paragraph to read as follows:

§ 27.10 Regulatory status.

The following rules apply concerning the regulatory status in the frequency bands specified

in § 27.5.

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, 747-762 MHz, and 777-792 MHz bands, will extend for a term not to exceed ten years from February 17, 2009, except that initial authorizations for a Part 27 licensee that provides broadcast services, whether exclusively or in combination with other services, will not exceed eight years. Initial authorizations for the 746-747 MHz, 776-777 MHz, 762-764 MHz, and 792-794 MHz bands shall not exceed January 1, 2015. Subsequent license terms shall be for a term not to exceed ten years. Licensees that initiate the provision of a broadcast service, whether exclusively or in combination with other services, may not provide this service for more than eight years or beyond the end of the license term if no broadcast service had been provided, whichever period is shorter in length.

12. Section 27.14 is amended redesignating paragraph (e) as paragraph (f), and by adding new paragraphs (e), (g), (h), (i), and (j) to read as follows:

§ 27.14 Construction requirements; Criteria for renewal.

* * * * *

(e) Comparative renewal proceedings do not apply to WCS licensees holding authorizations for the 698-746 MHz, 747-762 MHz, and 777-792 MHz bands. These licensees must file a renewal application in accordance with the provisions set forth in § 1.949.

13. Section 27.50 is amended by redesignating paragraphs (b)(2) and (b)(3) as paragraphs (b)(9) and (b)(10), respectively, and redesignating paragraphs (c)(2) and (c)(3) as paragraphs (c)(9) and (c)(10), respectively, deleting paragraphs (b)(1), (b)(4), (c)(1), (c)(4), and (c)(5), adding new paragraphs (b)(1) through (b)(8), (b)(11), (b)(12), (c)(1) through (c)(8), and (c)(11) to read as follows:

§ 27.50 Power and antenna height limits.

* * * * *

(b) * * *

(1) Fixed and base stations transmitting a signal in the 746-747 and 762-764 MHz bands must not exceed an effective radiated power (ERP) of 1000 watts and an antenna height of 305 m height above average terrain (HAAT), except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts ERP in accordance with Table 1 of this section.

(2) Fixed and base stations transmitting a signal in the 747-762 MHz and 777-792 MHz bands with an emission bandwidth of 1 MHz or less must not exceed an ERP of 1000 watts and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts ERP in accordance with Table 1 of this section.

(3) Fixed and base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal in the 747-762 MHz and 777-792 MHz bands with an emission bandwidth of 1 MHz or less must not exceed an ERP of 2000 watts and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts ERP in accordance with Table 2 of this section.

(4) Fixed and base stations transmitting a signal in the 747-762 MHz and 777-792 MHz bands with an emission bandwidth greater than 1 MHz must not exceed an ERP of 1000 watts/MHz and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts/MHz ERP accordance with Table 3 of this section.

(5) Fixed and base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal in the 747-762 MHz and 777-792 MHz bands with an emission bandwidth greater than 1 MHz must not exceed an ERP of 2000 watts/MHz and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts/MHz ERP in accordance with Table 4 of this section.

(6) Licensees of fixed or base stations transmitting a signal in the 747-762 or 777-792 MHz bands at an ERP greater than 1000 watts must comply with the provisions set forth in paragraph (b)(8) and §27.55(c).

(7) Licensees seeking to operate a fixed or base station located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal in the 747-762 MHz or 777-792 MHz bands at an ERP greater than 1000 watts must:

> (i) coordinate in advance with all licensees authorized to operate in the 698-764 MHz and 776-794 MHz bands within 120 kilometers (75 miles) of the base or fixed station;
>
> (ii) coordinate in advance with all regional planning committees, as identified in §90.527 of this chapter, with jurisdiction within 120 kilometers (75 miles) of the base or fixed station.

(8) Licensees authorized to transmit in the 747-762 or 777-792 MHz bands and intending to operate a base or fixed station at a power level permitted under the provisions of paragraph (b)(6) of this section must provide advanced notice of such operation to the Commission and to licensees authorized in their area of operation. Licensees who must be notified are all licensees authorized to operate in the 764-776 MHz and 794-806 MHz bands under Part 90 of this chapter within 75 km of the base or fixed station and all regional planning committees, as identified in §90.527 of this chapter, with jurisdiction within 75 km of the base or fixed station. Notifications must provide the location and operating parameters of the base or fixed station, including the station's ERP, antenna coordinates, antenna height above ground, and vertical antenna pattern, and such notifications must be provided at least 90 days prior to the commencement of station operation

* * * * *

(11) For transmissions in the 746-747 MHz, 762-764 MHz, 776-777 MHz, and 792-794 MHz bands, 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.

(12) For transmissions in the 747-762 MHz and 777-792 MHz bands, licensees may employ equipment operating in compliance with either the measurement techniques described in paragraph (b)(11) or a Commission-approved average power technique. In both instances, equipment employed must be authorized in accordance with the provisions of 27.51.

.

.

(c) * * *

(1) Fixed and base stations transmitting a signal with an emission bandwidth of 1 MHz or less must not exceed an effective radiated power (ERP) of 1000 watts and an antenna height of 305 m height above average terrain (HAAT), except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts ERP in accordance with Table 1 of this section.

(2) Fixed and base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal with an emission bandwidth of 1 MHz or less must not exceed an ERP of 2000 watts and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts ERP in accordance with Table 2 of this section.

(3) Fixed and base stations transmitting a signal with an emission bandwidth greater than 1 MHz must not exceed an ERP of 1000 watts/MHz and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts/MHz ERP in accordance with Table 3 of this section.

(4) Fixed and base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal with an emission bandwidth greater than 1 MHz must not exceed an ERP of 2000 watts/MHz and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts/MHz ERP in accordance with Table 4 of this section.

(5) Licensees seeking to operate a fixed or base station located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal at an ERP greater than 1000 watts must:

(i) coordinate in advance with all licensees authorized to operate in the 698-764 MHz and 776-794 MHz bands within 120 kilometers (75 miles) of the base or fixed station;

(ii) coordinate in advance with all regional planning committees, as identified in §90.527 of this chapter, with jurisdiction within 120 kilometers (75 miles) of the base or fixed station.

(6) Licensees of fixed or base stations transmitting a signal at an ERP greater than 1000 watts and greater than 1000 watts/MHz must comply with the provisions of paragraph (c)(8) and §27.55(b), except that licensees of fixed or base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, must comply with the provisions of paragraph (c)(8) and §27.55(b) only if transmitting a signal at an ERP greater than 2000 watts and greater than 2000 watts/MHz.

(7) A licensee authorized to operate in the 710-716, 716-722, or 740-746 MHz bands, or in any unpaired spectrum blocks within the 698-746 MHz band, may operate a fixed or base station at an ERP up to a total of 50 kW within its authorized, 6 MHz spectrum block if the licensee complies with the provisions of §27.55(b). The antenna height for such stations is limited only to the extent required to satisfy the requirements of §27.55(b).

(8) Licensees intending to operate a base or fixed station at a power level permitted under the provisions of paragraph (c)(6) must provide advanced notice of such operation to the Commission and to licensees authorized in their area of operation. Licensees who must be notified are all licensees authorized under this part to operate on an adjacent spectrum block within 75 km of the base or fixed station. Notifications must provide the location and operating parameters of the base or fixed station, including the station's ERP, antenna coordinates, antenna height above ground, and vertical antenna pattern, and such notifications must be provided at least 90 days prior to the commencement of station operation.

* * * * *

(11) Licensees may employ equipment operating in compliance with either the measurement techniques described in paragraph (b)(11) or a Commission-approved average power technique. In both instances, equipment employed must be authorized in accordance with the provisions of 27.51.

Table 1 - Permissible Power and Antenna Heights for Base and Fixed Stations in the 746-747 MHz and 762-764 MHz Bands and for Base and Fixed Stations in the 698-746 MHz, 747-762 MHz, and 777-792 MHz Bands Transmitting a Signal with an Emission Bandwidth of 1 MHz or Less

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts)
Above 1372 (4500)	65
Above 1220 (4000) To 1372 (4500)	70
Above 1067 (3500) To 1220 (4000)	75
Above 915 (3000) To 1067 (3500)	100
Above 763 (2500) To 915 (3000)	140
Above 610 (2000) To 763 (2500)	200

Above 458 (1500) To 610 (2000)	350
Above 305 (1000) To 458 (1500)	600
Up to 305 (1000)	1000

Table 2 – Permissible Power and Antenna Heights for Base and Fixed Stations in the 698-746 MHz, 747-762 MHz, and 777-792 MHz Bands Transmitting a Signal with an Emission Bandwidth of 1 MHz or Less

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts)
Above 1372 (4500)	130
Above 1220 (4000) To 1372 (4500)	140
Above 1067 (3500) To 1220 (4000)	150
Above 915 (3000) To 1067 (3500)	200
Above 763 (2500) To 915 (3000)	280
Above 610 (2000) To 763 (2500)	400
Above 458 (1500) To 610 (2000)	700
Above 305 (1000) To 458 (1500)	1200
Up to 305 (1000)	2000

Table 3 – Permissible Power and Antenna Heights for Base and Fixed Stations in the 698-746 MHz, 747-762 MHz and 777-792 MHz Bands Transmitting a Signal with an Emission Bandwidth Greater than 1 MHz

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) per MHz (watts/MHz)
Above 1372 (4500)	65
Above 1220 (4000) To 1372 (4500)	70
Above 1067 (3500) To 1220 (4000)	75
Above 915 (3000) To 1067 (3500)	100
Above 763 (2500) To 915 (3000)	140

Above 610 (2000) To 763 (2500)	200
Above 458 (1500) To 610 (2000)	350
Above 305 (1000) To 458 (1500)	600
Up to 305 (1000)	1000

Table 4 – Permissible Power and Antenna Heights for Base and Fixed Stations in the 698-746 MHz, 747-762 MHz and 777-792 MHz Bands Transmitting a Signal with an Emission Bandwidth Greater than 1 MHz

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) per MHz (watts/MHz)
Above 1372 (4500)	130
Above 1220 (4000) To 1372 (4500)	140
Above 1067 (3500) To 1220 (4000)	150
Above 915 (3000) To 1067 (3500)	200
Above 763 (2500) To 915 (3000)	280
Above 610 (2000) To 763 (2500)	400
Above 458 (1500) To 610 (2000)	700
Above 305 (1000) To 458 (1500)	1200
Up to 305 (1000)	2000

14. Section 27.55 is amended by revising paragraph (b) and adding new paragraph (c) to read as follows:

§ 27.55 Power strength limits.

* * * * *

(b) *Power flux density limit for stations operating in the 698-746 MHz bands.* For base and fixed stations operating in the 698-746 MHz band in accordance with the provisions of §27.50(c)(6) of this chapter, 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.

(c) *Power flux density limit for stations operating in the 747-762 and 777-792 MHz bands*. For base and fixed stations operating in the 747-762 and 777-792 MHz bands in accordance with the provisions of

§27.50(b)(6) of this chapter, 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 27.70 is added to read as follows:

§ 27.70 Information exchange.

(a) *Prior notification*. Public safety licensees authorized to operate in the 764-776 MHz and 794-806 MHz bands may notify any licensee authorized to operate in the 747-762 or 777-792 MHz bands that they wish to receive prior notification of the activation or modification of the licensee's base or fixed stations in their area. Thereafter, the 747-762 or 777-792 MHz band licensee must provide the following information to the public safety licensee at least 10 business days before a new base or fixed station is activated or an existing base or fixed station is modified:

(1) Location;

(2) Effective radiated power;

(3) Antenna height; and,

(4) Channels available for use.

(b) *Purpose of prior notification*. The prior coordination of base or fixed stations is for informational purposes only. Public safety licensees are not afforded the right to accept or reject the activation of a proposed base or fixed station or to unilaterally require changes in its operating parameters. The principal purposes of notification are to:

(1) Allow a public safety licensee to advise the 747-762 or 777-792 MHz band licensee whether it believes a proposed base or fixed station will generate unacceptable interference;

(2) Permit 747-762 and 777-792 MHz band licensees to make voluntary changes in base or fixed station parameters when a public safety licensee alerts them to possible interference; and,

(3) Rapidly identify the source if interference is encountered when the base or fixed station is activated.

16. Section 27.601 is amended by deleting paragraph (c), redesignating paragraphs (d) and (e) as paragraphs (c) and (d), respectively, and revising the title, paragraphs (a) and (b), and redesignated paragraph (d) to read as follows:

§ 27.601 Authority and coordination requirements.

(a) Subject to the provisions of §27.2(b), a Guard Band licensee may allow a spectrum lessee, pursuant to a spectrum lease arrangement under part 1, subpart X of this chapter, to construct and operate stations at any available site within the licensed area and on any channel for which the Guard Band licensee is licensed, provided such stations comply with Commission Rules and coordination requirements.

(b) Subject to the provisions of §27.2(b), a Guard Band licensee may allow a spectrum lessee, pursuant to a spectrum lease arrangement under part 1, subpart X of this chapter, to delete, move or change the operating parameters of any of the user's stations that are covered under the Guard Band licensee's authorization without prior Commission approval, provided such stations comply with Commission Rules

and coordination requirements.

(c) *Frequency Coordination*.

(1) A Guard Band licensee, or a spectrum lessee operating pursuant to a spectrum lease arrangement under §§ 1.9030 and 1.9035 of this chapter, must notify Commission-recognized public safety frequency coordinators for the 700 MHz Public Safety band and adjacent-area Guard Band licensees within one business day after the licensee or the spectrum lessee has:

(i) Coordinated a new station or modification of an existing station; or

(ii) Filed an application for an individual station license with the Commission.

(2) The notification required in paragraph (c)(1) of this section must include, at a minimum—

(i) The frequency or frequencies coordinated;

(ii) Antenna location and height;

(iii) Type of emission;

(iv) Effective radiated power;

(v) A description of the service area, date of coordination, and user name or, in the alternative, a description of the type of operation.

(3) In the event a licensee partitions its service area or disaggregates its spectrum, it is required to submit the notification required in paragraph (c)(1) of this section to other Guard Band licensees in the same geographic area.

(4) Entities coordinated by a Guard Band licensee, or a spectrum lessee operating pursuant to a spectrum lease arrangement under §§ 1.9030 and 1.9035 of this chapter, must wait at least 10 business days after the notification required in paragraph (c)(1) of this section before operating under the license.

(d) Where a deletion, move or change authorized under paragraph (b) of this section constitutes a discontinuance, reduction, or impairment of service under §27.66 or where discontinuance, reduction or impairment of service results from an involuntary act subject to §27.66(a), the licensee must comply with the notification and authorization requirements set forth in that section.

17. Section 27.602 is amended by deleting paragraphs (a), (d), (e), (f), (g) and (h), redesignating paragraphs (b) and (c) as paragraphs (a) and (b), and revising the title, the introductory language, and redesignated paragraphs (a) and (b) to read as follows:

§ 27.602 Lease agreements.

Guard Band licensees may enter into spectrum leasing arrangements under part 1, subpart X of this chapter regarding the use of their licensed spectrum by spectrum lessees, subject to the following conditions:

(a) The spectrum lease agreement between the licensee and the spectrum lessee must specify in detail the operating parameters of the spectrum lessee's system, including power, maximum antenna heights,

frequencies of operation, base station location(s), area(s) of operation, and other parameters specified in Commission rules for the use of spectrum identified in §27.5(b)(1) and (b)(2).

(b) The spectrum lease agreement must require the spectrum lessee to use Commission-approved equipment where appropriate and to complete post-construction proofs of system performance prior to system activation.

18. Section 27.603 is deleted.

19. Section 27.605 is deleted.

20. Section 27.606 is deleted.

21. Section 27.607 is amended by deleting paragraphs (c)(2), redesignating paragraph (c)(1) as paragraph (c)(2), adding a new paragraph (c)(1), and revising the title, the introductory text in paragraph (c), paragraphs (b), (c)(3), (c)(4) and (c)(5), and redesignated paragraph (c)(2) to read as follows:

§ 27.607 Performance requirements and annual reporting requirement.

* * * * *

(b) Guard Band licensee are required to file an annual report providing the Commission with information about the manner in which their spectrum is being utilized. * * *

(c) Guard Band licensees must, at a minimum, include the following information in their annual reports:

(1) The total number of spectrum lessees;

(2) The amount of the licensee's spectrum being used pursuant to spectrum lease agreements;

(3) The nature of the spectrum use of the licensee's customers; and,

(4) The length of term of each spectrum lease agreement, and whether the agreement is a spectrum manager lease agreement, or a *de facto* transfer lease agreement.

(d) The specific information that licensees will provide and the procedures that they will follow in submitting their annual reports will be announced in a Public Notice issued by the Wireless Telecommunications Bureau.

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

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

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

23. Part 90 is amended by adding new Section 90.555 to read as follows:

§ 90.555 Information exchange.

a) *Prior notification*. Public safety licensees authorized to operate in the 764-776 MHz and 794-806 MHz bands may notify any licensee authorized to operate in the 747-762 or 777-792 MHz bands that they

wish to receive prior notification of the activation or modification of the licensee's base or fixed stations in their area. Thereafter, the 747-762 or 777-792 MHz band licensee must provide the following information to the public safety licensee at least 10 business days before a new base or fixed station is activated or an existing base or fixed station is modified:

(1) Location;

(2) Effective radiated power;

(3) Antenna height; and,

(4) Channels available for use.

(b) *Purpose of prior notification.* The prior coordination of base or fixed stations is for informational purposes only. Public safety licensees are not afforded the right to accept or reject the activation of a proposed base or fixed station or to unilaterally require changes in its operating parameters. The principal purposes of notification are to:

(1) Allow a public safety licensee to advise the 747-762 or 777-792 MHz band licensee whether it believes a proposed base or fixed station will generate unacceptable interference;

(2) Permit 747-762 and 777-792 MHz band licensees to make voluntary changes in base or fixed station parameters when a public safety licensee alerts them to possible interference; and

(3) Rapidly identify the source if interference is encountered when the base or fixed station is activated.

(c) *Public Safety Information Exchange*.

(1) Upon request by a 747-762 or 777-792 MHz band licensee, public safety licensees authorized to operate radio systems in the 764-776 and 794-806 MHz bands shall provide the operating parameters of their radio system to the 747-762 or 777-792 MHz band licensee.

(2) Public safety licensees who perform the information exchange described in this section must notify the appropriate 747-762 or 777-792 MHz band licensees prior to any technical changes to their radio system.

APPENDIX C

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1] separate Initial Regulatory Flexibility Analyses (IRFA) were incorporated in the *700 MHz Commercial Services Notice* in WT Docket No. 06-150, CC Docket No. 94-102, and WT Docket No. 01-309; the *700 MHz Guard Band Notice*, WT Docket Nos. 06-169 and 96-86; and the *700 MHz Public Safety Notice,* PS Docket No. 06-229 and WT Docket No. 96-86.[2] The Commission sought written public comment on the proposals in these dockets, including comment on the IRFA. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.[3]

2. Although Section 213 of the Consolidated Appropriations Act of 2000 provides that the RFA shall not apply to the rules and competitive bidding procedures for frequencies in the 746-806 MHz Band,[4] the Commission believes that it would serve the public interest to analyze the possible significant economic impact of the proposed policy and rule changes in this band on small entities. Accordingly, this FRFA contains an analysis of this impact in connection with all spectrum that falls within the scope of this *Report and Order*, including spectrum in the 746-806 MHz Band.

A. Need for, and Objectives of, the Rules

3. In the *Report and Order*, with regard to commercial services, the Commission takes a number of steps to facilitate access to spectrum and the provision of service to consumers, especially those in rural areas, and to simplify and clarify our rules related to the commercial 700 MHz spectrum. The Commission decides that it will auction the Commercial Services licenses across a mix of geographic service area definitions. The Commission also extends the date for initial license terms from January 15, 2015, to the end of the DTV transition on February 17, 2019. With regard to radiated power limits, the Commission generally adopts a power spectral density model, with certain limitations, to provide greater operational flexibility to licensees operating at wider bandwidths, and provides for higher radiated power levels for those 700 MHz licensees operating in rural areas under the current 1 kW per MHz power limit.

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

[2] *See* Service Rules for the 698-749, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, and Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, *Notice of Proposed Rule Making, Fourth Further Notice of Proposed Rule Making, and Second Further Notice of Proposed Rule Making*, 21 FCC Rcd 9345, 9394 (2006) ("*700 MHz Commercial Services Notice");* Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket Nos. 06-169 and 96-86, *Notice of Proposed Rule Making*, 21 FCC Rcd 10413, 10440 (2006) ("*700 MHz Guard Bands Notice*"); Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band, PS Docket 06-229, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96-86, *Ninth Notice of Proposed Rule Making*, 21 FCC Rcd 14837, 14853 (2006) ("*700 MHz Public Safety Ninth Notice")*.

[3] *See* 5 U.S.C. § 604.

[4] In particular, this exemption extends to the requirements imposed by Chapter 6 of Title 5, United States Code, Section 3 of the Small Business Act (15 U.S.C. 632) and Sections 3507 and 3512 of Title 44, United States Code. Consolidated Appropriations Act 2000, Pub. L. No. 106-113, 113 Stat. 2502, Appendix E, Sec. 213(a)(4)(A)-(B); *see* 145 Cong. Rec. H12493-94 (Nov. 17, 1999); 47 U.S.C.A. 337 note at Sec. 213(a)(4)(A)-(B).

The Commission also modifies the 911/E911 rules to remove the service- and band-specific limitations on the applicability of those requirements. Further, the Commission finds that all digital CMRS providers, including providers in the 700 MHz, Advanced Wireless Services, and the Broadband Radio Service/Educational Broadband Service bands, along with manufacturers of handsets capable of providing such services, should be subject to the Commission's hearing aid compatibility requirements to the extent that a service satisfies the scope provision the current rules.

4. The Commission also adopts rules to enhance spectrum usage in the 700 MHz Guard Bands by replacing the Guard Band Manager spectrum leasing regime with the Secondary Markets spectrum leasing policies and rules. Guard bands licensees will have the option of entering into spectrum manager and *de facto* transfer leasing arrangements. By permitting Guard Band licensees and spectrum lessees to choose between the two different options, the Commission affords licensees and spectrum lessees significant flexibility to craft the type of leasing arrangement that best matches their particular needs and the demands of the marketplace.

B. Legal Basis

5. The authority for the actions taken in this *Report and Order* is contained in Sections 1, 4(i), 7, 10, 201, 202, 208, 214, 215, 222(d)(4)(A)-(C), 222(f), 222(g), 222(h)(1)(A), 222(h)(4)-(5), 251(e)(3), 301, 303, 307, 308, 309, 310, 311, 315, 316, 317, 324, 331, 332, 336, 337 and 710, of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 157, 160, 201, 202, 208, 214, 215, 222(d)(4)(A)-(C), 222(f), 222(g), 222(h)(1)(A), 222(h)(4)-(5), 251(e)(3), 301, 303, 307, 308, 309, 310, 311, 315, 317, 324, 331, 332, 336, 337, and 610.

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

6. No comments specifically addressed the IRFAs from any of the respective proceedings. We have nonetheless addressed small entity issues found in comments in this FRFA.

D. Description and Estimate of the Number of Small Entities to Which the Rules Will Apply

7. The RFA directs agencies to provide a description of, and, where feasible, an estimate of, the number of small entities that may be affected by the proposed rules, if adopted.[5] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[6] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[7] A "small business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).[8]

8. *Governmental Entities*. The term "small governmental jurisdiction" is defined as "governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."[9] As of 2002, there were approximately 87,525 governmental jurisdictions in

[5] 5 U.S.C. § 604(a)(3).

[6] 5 U.S.C. § 601(6).

[7] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small-business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

[8] 15 U.S.C. § 632.

[9] 5 U.S.C. § 601(5).

the United States.[10] This number includes 38,967 county governments, municipalities, and townships, of which 37,373 (approximately 95.9%) have populations of fewer than 50,000, and of which 1,594 have populations of 50,000 or more. Thus, the Commission estimates the number of small governmental jurisdictions overall to be 85,931 or fewer.

9. In the following paragraphs, the Commission further describes and estimates the number of small entity licensees that may be affected by the rules the Commission adopts in this *Report and Order*. The rule changes affect Upper 700 MHz and Lower 700 MHz Band licensees in the 698-746, 747-762, and 777-792 MHz spectrum bands, as well as all commercial mobile radio services (CMRS) with respect to 911/E911 requirements adopted in this *Report and Order*.

10. Since this *Report and Order* applies to multiple services, this FRFA analyzes the number of small entities affected on a service-by-service basis. When identifying small entities that could be affected by the Commission's new rules, this FRFA provides information that describes auctions results, including the number of small entities that were winning bidders. However, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily reflect the total number of small entities currently in a particular service. The Commission does not generally require that licensees later provide business size information, except in the context of an assignment or a transfer of control application that involves unjust enrichment issues.

Part 27 Miscellaneous Wireless Communications Services (MWCS)

11. *Wireless Communications Services*. This service can be used for fixed, mobile, radiolocation, and digital audio broadcasting satellite uses in the 2305-2320 MHz and 2345-2360 MHz bands. The Commission defined "small business" for the wireless communications services (WCS) auction as an entity with average gross revenues of $40 million for each of the three preceding years, and a "very small business" as an entity with average gross revenues of $15 million for each of the three preceding years.[11] The SBA has approved these definitions.[12] The Commission auctioned geographic area licenses in the WCS service. In the auction, which commenced on April 15, 1997 and closed on April 25, 1997, there were seven bidders that won 31 licenses that qualified as very small business entities, and one bidder that won one license that qualified as a small business entity.

12. *700 MHz Guard Band Licenses*. In the *700 MHz Guard Band Order*, the Commission adopted size standards for "small businesses" and "very small businesses" for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[13] A small business in this service is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $40 million for the preceding three years.[14] Additionally, a "very small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $15 million for the preceding three years.[15] SBA approval of these

[10] U.S. Census Bureau, Statistical Abstract of the United States: 2006, Section 8, pages 272-273, Tables 415 and 417.

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

[12] *See* Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated December 2, 1998.

[13] *See* Service Rules for the 746-764 MHz Bands, and Revisions to Part 27 of the Commission's Rules, *Second Report and Order*, 15 FCC Rcd 5299 (2000).

[14] *Id*. at 5343 ¶ 108.

[15] *Id*.

definitions is not required.[16] An auction of 52 Major Economic Area (MEA) licenses commenced on September 6, 2000, and closed on September 21, 2000.[17] Of the 104 licenses auctioned, 96 licenses were sold to nine bidders. Five of these bidders were small businesses that won a total of 26 licenses. A second auction of 700 MHz Guard Band licenses commenced on February 13, 2001, and closed on February 21, 2001. All eight of the licenses auctioned were sold to three bidders. One of these bidders was a small business that won a total of two licenses.[18]

13. *Upper 700 MHz Band Licenses*. The Commission released a *Report and Order* authorizing service in the Upper 700 MHz band.[19] An auction for these licenses, previously scheduled for January 13, 2003, was postponed.[20]

14. *Lower 700 MHz Band Licenses*. The Commission adopted criteria for defining three groups of small businesses for purposes of determining their eligibility for special provisions such as bidding credits.[21] The Commission has defined a small business as an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $40 million for the preceding three years.[22] A very small business is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $15 million for the preceding three years.[23] Additionally, the Lower 700 MHz Band has a third category of small business status that may be claimed for Metropolitan/Rural Service Area (MSA/RSA) licenses. The third category is entrepreneur, which is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $3 million for the preceding three years.[24] The SBA has approved these small size standards.[25] An auction of 740 licenses (one license in each of the 734 MSAs/RSAs and one license in each of the six Economic Area Groupings (EAGs)) commenced on August 27, 2002, and closed on September 18, 2002. Of the 740 licenses available for auction, 484 licenses were sold to 102 winning bidders. Seventy-two of the winning bidders claimed small business, very small business or entrepreneur status and won a total of 329 licenses.[26] A second auction commenced on May 28, 2003, and closed on June 13, 2003, and included 256 licenses: 5 EAG licenses

[16] *Id*. At 5343 ¶ 108 n.246 (for the 746-764 MHz and 776-704 MHz bands, the Commission is exempt from 15 U.S.C. § 632, which requires Federal agencies to obtain Small Business Administration approval before adopting small business size standards).

[17] *See* "700 MHz Guard Bands Auction Closes: Winning Bidders Announced," *Public Notice*, 15 FCC Rcd 18026 (2000).

[18] *See* "700 MHz Guard Bands Auctions Closes: Winning Bidders Announced," *Public Notice*, 16 FCC Rcd 4590 (WTB 2001).

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

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

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

[22] *Id.* at 1087-88 ¶ 172.

[23] *Id.*

[24] *Id.* at 1088 ¶ 173.

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

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

and 476 CMA licenses.[27] Seventeen winning bidders claimed small or very small business status and won sixty licenses, and nine winning bidders claimed entrepreneur status and won 154 licenses.[28]

15. *Government Transfer Bands*. The Commission adopted small business size standards for the unpaired 1390-1392 MHz, 1670-1675 MHz, and the paired 1392-1395 MHz and 1432-1435 MHz bands.[29] Specifically, with respect to these bands, the Commission defined an entity with average annual gross revenues for the three preceding years not exceeding $40 million as a "small business," and an entity with average annual gross revenues for the three preceding years not exceeding $15 million as a "very small business."[30] Correspondingly, the Commission adopted a bidding credit of 15 percent for "small businesses" and a bidding credit of 25 percent for "very small businesses."[31] An auction for one license in the 1670-1674 MHz band commenced on April 30, 2003 and closed the same day. One license was awarded. The winning bidder was not a small entity.

16. *Advanced Wireless Services*. In the *AWS-1 Report and Order*, the Commission adopted rules that affect applicants who wish to provide service in the 1710-1755 MHz and 2110-2155 MHz bands.[32] The *AWS-1 Report and Order* defines a "small business" as an entity with average annual gross revenues for the preceding three years not exceeding $40 million, and a "very small business" as an entity with average annual gross revenues for the preceding three years not exceeding $15 million. The *AWS-1 Report and Order* also provides small businesses with a bidding credit of 15 percent and very small businesses with a bidding credit of 25 percent.

17. *Broadband Radio Service (formerly Multipoint Distribution Service) and Educational Broadband Service (formerly Instructional Television Fixed Service)*. Multichannel Multipoint Distribution Service (MMDS) systems, often referred to as "wireless cable," transmit video programming to subscribers using the microwave frequencies of the Multipoint Distribution Service (MDS) and

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

[28] *Id*.

[29] *See* Amendments to Parts 1, 2, 27 and 90 of the Commission's Rules to License Services in the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, AND 2385-2390 MHz Government Transfer Bands, 17 FCC Rcd 9980 (2002) *(Government Transfer Bands Service Rules Report and Order*).

[30] *See Service Rules Notice,* 17 FCC Rcd at 2550-51 ¶¶ 144-146. To be consistent with the size standard of "very small business" proposed for the 1427-1432 MHz band for those entities with average gross revenues for the three preceding years not exceeding $3 million, the *Service Rules Notice* proposed to use the terms "entrepreneur" and "small business" to define entities with average gross revenues for the three preceding years not exceeding $40 million and $15 million, respectively. Because the Commission has not adopted a $3 million size standard for the 1427-1432 MHz band, it instead uses the terms "small business" and "very small business" to define entities with average gross revenues for the three preceding years not exceeding $40 million and $15 million, respectively.

[31] S*ee* Reallocation of the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands, *Notice of Proposed Rulemaking ,* 17 FCC Rcd 2500, 2550-51 ¶¶ 144-146 (*Government Transfer Bands Service Rules Notice*). To be consistent with the size standard of "very small business" proposed for the 1427-1432 MHz band for those entities with average gross revenues for the three preceding years not exceeding $3 million, the *Government Transfer Bands Service Rules Notice* proposed to use the terms "entrepreneur" and "small business" to define entities with average gross revenues for the three preceding years not exceeding $40 million and $15 million, respectively. Because the Commission is not adopting small business size standards for the 1427-1432 MHz band, it instead uses the terms "small business" and "very small business" to define entities with average gross revenues for the three preceding years not exceeding $40 million and $15 million, respectively.

[32] Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, WT Docket No. 02-353, *Report and Order*, 18 FCC Rcd 25162 (2003) (*AWS-1 Report and Order*).

Instructional Television Fixed Service (ITFS).[33] In its recently issued *BRS/EBS Report and Order* in WT Docket No. 03-66, the Commission comprehensively reviewed its policies and rules relating to the ITFS and MDS services, and replaced the MDS with the Broadband Radio Service and ITFS with the Educational Broadband Service in a new band plan at 2495-2690 MHz.[34] In connection with the 1996 MDS auction, the Commission defined "small business" as an entity that, together with its affiliates, has average gross annual revenues that are not more than $40 million for the preceding three calendar years.[35] The SBA has approved of this standard.[36] The MDS auction resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (BTAs).[37] Of the 67 auction winners, 61 claimed status as a small business. At this time, the Commission estimates that of the 61 small business MDS auction winners, 48 remain small business licensees. In addition to the 48 small businesses that hold BTA authorizations, there are approximately 392 incumbent MDS licensees that have gross revenues that are not more than $40 million and are thus considered small entities.[38]

Additional Wireless Radio Services (WRS)

18. *Cellular Licensees*. The SBA has developed a small business size standard for small businesses in the category "Cellular and Other Wireless Telecommunications."[39] Under that SBA category, a business is small if it has 1,500 or fewer employees.[40] For the census category of "Cellular and Other Wireless Telecommunications," Census Bureau data for 2002 show that there were 1,397 firms in this category that operated for the entire year.[41] Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.[42] Thus, under this category and size standard, the majority of firms can be considered small.

19. *220 MHz Radio Service – Phase I Licensees*. The 220 MHz service has both Phase I and

[33] Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act – Competitive Bidding, MM Docket No. 94-131 and PP Docket No. 93-253, *Report and Order*, 10 FCC Rcd 9589, 9593 ¶ 7 (1995) (*MDS Auction R&O)*.

[34] *See* Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands, *Report and Order and Further Notice of Proposed Rulemaking*, 19 FCC Rcd 14165 (2004) (*BRS/EBS Report and Order* and *BRS/EBS Further Notice*, respectively).

[35] 47 C.F.R. § 21.961(b)(1).

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

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

[38] 47 U.S.C. § 309(j). Hundreds of stations were licensed to incumbent MDS licensees prior to implementation of Section 309(j) of the Communications Act of 1934, 47 U.S.C. § 309(j). For these pre-auction licenses, the applicable standard is SBA's small business size standard for "other telecommunications" (annual receipts of $12.5 million or less). *See* 13 C.F.R. § 121.201, NAICS code 517910.

[39] 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 517212.

[40] *Id*.

[41] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization," Table 5, NAICS code 517212 (issued Nov. 2005).

[42] *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

Phase II licenses. Phase I licensing was conducted by lotteries in 1992 and 1993. There are approximately 1,515 such non-nationwide licensees and four nationwide licensees currently authorized to operate in the 220 MHz Band. The Commission has not developed a definition of small entities specifically applicable to such incumbent 220 MHz Phase I licensees. To estimate the number of such licensees that are small businesses, the Commission applies the small business size standard under the SBA rules applicable to "Cellular and Other Wireless Telecommunications" companies. This category provides that a small business is a wireless company employing no more than 1,500 persons.[43] For the census category of "Cellular and Other Wireless Telecommunications," Census Bureau data for 2002 show that there were 1,397 firms in this category that operated for the entire year.[44] Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.[45] Thus, under this category and size standard, the majority of firms can be considered small.

20. *220 MHz Radio Service – Phase II Licensees.* The 220 MHz service has both Phase I and Phase II licenses. The Phase II 220 MHz service is subject to spectrum auctions. In the *220 MHz Third Report and Order*, the Commission adopted a small business size standard for defining "small" and "very small" businesses for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[46] This small business standard indicates that a "small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $15 million for the preceding three years.[47] A "very small business" is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that do not exceed $3 million for the preceding three years.[48] The SBA has approved these small size standards.[49] Auctions of Phase II licenses commenced on September 15, 1998, and closed on October 22, 1998.[50] In the first auction, 908 licenses were auctioned in three different-sized geographic areas: three nationwide licenses, 30 Regional Economic Area Group (EAG) Licenses, and 875 Economic Area (EA) Licenses. Of the 908 licenses auctioned, 693 were sold.[51] Thirty-nine small businesses won 373 licenses in the first 220 MHz auction. A second auction included 225 licenses: 216 EA licenses and 9 EAG licenses. Fourteen companies claiming small business status won 158 licenses.[52] A third auction included four licenses: 2 BEA licenses and 2 EAG licenses in the 220 MHz Service. No small or very small business won any of these licenses.[53]

21. *Paging.* In the *Paging Second* Report *and Order*, the Commission adopted a size

[43] 13 C.F.R. § 121.201, NAICS code 517212.

[44] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization," Table 5, NAICS code 517212 (issued Nov. 2005).

[45] *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

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

[47] *Id.* at 11068 ¶ 291.

[48] *Id.*

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

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

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

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

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

standard for "small businesses" for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[54] A small business is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $15 million for the preceding three years.[55] The SBA has approved this definition.[56] An auction of Metropolitan Economic Area (MEA) licenses commenced on February 24, 2000, and closed on March 2, 2000. Of the 2,499 licenses auctioned, 985 were sold.[57] Fifty-seven companies claiming small business status won 440 licenses.[58] An auction of MEA and Economic Area (EA) licenses commenced on October 30, 2001, and closed on December 5, 2001. Of the 15,514 licenses auctioned, 5,323 were sold.[59] 132 companies claiming small business status purchased 3,724 licenses. A third auction, consisting of 8,874 licenses in each of 175 EAs and 1,328 licenses in all but three of the 51 MEAs commenced on May 13, 2003, and closed on May 28, 2003. Seventy-seven bidders claiming small or very small business status won 2,093 licenses.[60] Currently, there are approximately 24,000 Private Paging site-specific licenses and 74,000 Common Carrier Paging licenses. According to the Commission's *Trends in Telephone Service,* 375 such carriers reported that they were engaged in the provision of either paging or "messaging service."[61] Of these, the Commission estimates that 370 are small, under the SBA-approved small business size standard.[62] The Commission estimates that the majority of private and common carrier paging providers would qualify as small entities under the SBA definition.

22. *Broadband Personal Communications Service.* The broadband Personal Communications Service (PCS) spectrum is divided into six frequency blocks designated A through F, and the Commission has held auctions for each block. The Commission has created a small business size standard for Blocks C and F as an entity that has average gross revenues of less than $40 million in the three previous calendar years.[63] For Block F, an additional small business size standard for "very small business" was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years.[64] These small business size

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

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

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

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

[58] *See id*.

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

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

[61] *See Trends in Telephone Service,* Industry Analysis Division, Wireline Competition Bureau, Table 5.3 (Number of Telecommunications Service Providers by Size of Business) (June 2005).

[62] 13 C.F.R. § 121.201, NAICS code 517211.

[63] *See* Amendment of Parts 20 and 24 of the Commission's Rules – Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap, *Report and Order*, 11 FCC Rcd 7824, 7850-7852 ¶¶ 57-60 (1996); *see also* 47 C.F.R. § 24.720(b).

[64] *See* Amendment of Parts 20 and 24 of the Commission's Rules – Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap, *Report and Order*, 11 FCC Rcd 7824, 7852 ¶ 60.

standards, in the context of broadband PCS auctions, have been approved by the SBA.[65] No small businesses within the SBA-approved small business size standards bid successfully for licenses in Blocks A and B. There were 90 winning bidders that qualified as small entities in the C Block auctions. A total of 93 "small" and "very small" business bidders won approximately 40 percent of the 1,479 licenses for Blocks D, E, and F.[66] On March 23, 1999, the Commission reauctioned 155 C, D, E, and F Block licenses; there were 113 small business winning bidders.[67] On January 26, 2001, the Commission completed the auction of 422 C and F PCS licenses in Auction 35.[68] Of the 35 winning bidders in this auction, 29 qualified as "small" or "very small" businesses. Subsequent events concerning Auction 35, including judicial and agency determinations, resulted in a total of 163 C and F Block licenses being available for grant.

23. *Narrowband Personal Communications Service.* The Commission held an auction for Narrowband Personal Communications Service (PCS) licenses that commenced on July 25, 1994, and closed on July 29, 1994. A second commenced on October 26, 1994 and closed on November 8, 1994. For purposes of the first two Narrowband PCS auctions, "small businesses" were entities with average gross revenues for the prior three calendar years of $40 million or less.[69] Through these auctions, the Commission awarded a total of forty-one licenses, 11 of which were obtained by four small businesses.[70] To ensure meaningful participation by small business entities in future auctions, the Commission adopted a two-tiered small business size standard in the *Narrowband PCS Second Report and Order*.[71] A "small business" is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than $40 million.[72] A "very small business" is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than $15 million.[73] The SBA has approved these small business size standards.[74] A third auction commenced on October 3, 2001 and closed on October 16, 2001. Here, five bidders won 317 (MTA and nationwide) licenses.[75] Three of these claimed status as a small or very small entity and won

[65] *See* Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated December 2, 1998.

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

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

[68] *See* "C and F Block Broadband PCS Auction Closes; Winning Bidders Announced," *Public Notice,* 16 FCC Rcd 2339 (2001).

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

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

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

[72] *Id*.

[73] *Id*.

[74] *See* Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated December 2, 1998.

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

311 licenses.

24. *Specialized Mobile Radio*. The Commission awards "small entity" bidding credits in auctions for Specialized Mobile Radio (SMR) geographic area licenses in the 800 MHz and 900 MHz bands to firms that had revenues of no more than $15 million in each of the three previous calendar years.[76] The Commission awards "very small entity" bidding credits to firms that had revenues of no more than $3 million in each of the three previous calendar years.[77] The SBA has approved these small business size standards for the 900 MHz Service.[78] The Commission has held auctions for geographic area licenses in the 800 MHz and 900 MHz bands. The 900 MHz SMR auction began on December 5, 1995, and closed on April 15, 1996. Sixty bidders claiming that they qualified as small businesses under the $15 million size standard won 263 geographic area licenses in the 900 MHz SMR band. The 800 MHz SMR auction for the upper 200 channels began on October 28, 1997, and was completed on December 8, 1997. Ten bidders claiming that they qualified as small businesses under the $15 million size standard won 38 geographic area licenses for the upper 200 channels in the 800 MHz SMR band.[79] A second auction for the 800 MHz band was held on January 10, 2002 and closed on January 17, 2002 and included 23 BEA licenses. One bidder claiming small business status won five licenses.[80]

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

26. In addition, there are numerous incumbent site-by-site SMR licensees and licensees with extended implementation authorizations in the 800 and 900 MHz bands. The Commission does not know how many firms provide 800 MHz or 900 MHz geographic area SMR pursuant to extended implementation authorizations, nor how many of these providers have annual revenues of no more than $3 million or $15 million (the special small business size standards), or have no more than 1,500 employees (the generic SBA standard for wireless entities, discussed, *supra*). One firm has over $15 million in revenues. The Commission assumes, for purposes of this analysis, that all of the remaining existing extended implementation authorizations are held by small entities.

27. *Private Land Mobile Radio*. Private Land Mobile Radio (PLMR) systems serve an essential role in a range of industrial, business, land transportation, and public safety activities. These radios are used by companies of all sizes operating in all U.S. business categories, and are often used in support of the licensee's primary (non-telecommunications) business operations. The SBA has developed a small business size standard for the economic census category, "Cellular and Other Wireless

[76] 47 C.F.R. § 90.814(b)(1).

[77] *Id*.

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

[79] *See* "Correction to Public Notice DA 96-586 'FCC Announces Winning Bidders in the Auction of 1020 Licenses to Provide 900 MHz SMR in Major Trading Areas,'" *Public Notice*, 18 FCC Rcd 18367 (WTB 1996).

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

Telecommunications," which is any such entity employing no more than 1,500 persons.[81] The Commission does not require PLMR licensees to disclose information about number of employees, so the Commission does not have information that could be used to determine how many PLMR licensees constitute small entities under this definition.

28. *Fixed Microwave Services*. Fixed microwave services include common carrier,[82] private-operational fixed,[83] and broadcast auxiliary radio services.[84] Currently, there are approximately 22,015 common carrier fixed licensees and 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The Commission has not yet defined a small business with respect to microwave services. As noted, the SBA has developed a small business size for the broad census category, "Cellular and Other Wireless Telecommunications" companies—that is, an entity with no more than 1,500 persons.[85] The Commission does not have data specifying the number of these licensees that have more than 1,500 employees, and thus is unable at this time to estimate with greater precision the number of fixed microwave service licensees that would qualify as small business concerns under the SBA's small business size standard. Consequently, the Commission estimates that there are 22,015 or fewer small common carrier fixed licensees and 61,670 or fewer small private operational-fixed licensees and small broadcast auxiliary radio licensees in the microwave services that may be affected by the rules and policies adopted herein. The Commission notes, however, that the common carrier microwave fixed licensee category includes some large entities.

29. *39 GHz Service*. The Commission defines "small entity" for 39 GHz licenses as an entity that has average gross revenues of less than $40 million in the three previous calendar years.[86] "Very small business" is defined as an entity that, together with its affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years.[87] The SBA has approved these definitions.[88] The auction of the 2,173 39 GHz licenses began on April 12, 2000, and closed on May 8, 2000. The 18 bidders who claimed small business status won 849 licenses.

30. *Local Multipoint Distribution Service*. An auction of the 986 Local Multipoint Distribution Service (LMDS) licenses began on February 18, 1998, and closed on March 25, 1998. The Commission defined "small entity" for LMDS licenses as an entity that has average gross revenues of less

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

[82] 47 C.F.R. §§ 101 *et seq.* (formerly, part 21 of the Commission's Rules).

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

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

[85] 13 C.F.R. § 121.201, NAICS code 517212.

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

[87] *Id*.

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

than $40 million in the three previous calendar years.[89] An additional classification for "very small business" was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more than $15 million for the preceding three calendar years.[90] These regulations defining "small entity" in the context of LMDS auctions have been approved by the SBA.[91] There were 93 winning bidders that qualified as small entities in the LMDS auctions. A total of 93 small and very small business bidders won approximately 277 A Block licenses and 387 B Block licenses. On March 27, 1999, the Commission re-auctioned 161 licenses; there were 32 small and very small business winning bidders that won 119 licenses.

31. *218-219 MHz Service*. The first auction of 218-219 MHz (previously referred to as the Interactive and Video Data Service or IVDS) spectrum resulted in 178 entities winning licenses for 594 Metropolitan Statistical Areas (MSAs).[92] Of the 594 licenses, 567 were won by 167 entities qualifying as a small business. For that auction, the Commission defined a small business as an entity that, together with its affiliates, has no more than a $6 million net worth and, after federal income taxes (excluding any carry over losses), has no more than $2 million in annual profits each year for the previous two years.[93] For future auctions in the *218-219 MHz Report and Order and Memorandum Opinion and Order*, the Commission defined a small business as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and their affiliates, has average annual gross revenues not exceeding $15 million for the preceding three years.[94] A very small business is defined as an entity that, together with its affiliates and persons or entities that holds interests in such an entity and its affiliates, has average annual gross revenues not exceeding $3 million for the preceding three years.[95] The SBA has approved of these definitions.[96] At this time, no additional auction is scheduled.

32. *Location and Monitoring Service*. Multilateration Location and Monitoring Service (LMS) systems use non-voice radio techniques to determine the location and status of mobile radio units. For purposes of auctioning LMS licenses, the Commission has defined "small business" as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not exceeding $15 million.[97] A "very small business" is defined as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years

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

[90] *Id*.

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

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

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

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

[95] *Id*.

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

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

not exceeding $3 million.[98] These definitions have been approved by the SBA.[99] An auction for multilateration LMS licenses commenced on February 23, 1999, and closed on March 5, 1999. Of the 528 licenses auctioned, 289 licenses were sold to four small businesses. In addition, there are numerous site-by-site non-multilateration licensees, and the Commission does not know how many of these providers have annual revenues of no more than $3 million or $15 million (the special small business size standards), or have no more than 1,500 employees (the generic SBA standard for wireless entities, discussed *supra*). The Commission assumes, for purposes of this analysis, that all of these licenses are held by small entities.

33. *Rural Radiotelephone Service*. The Commission uses the SBA small business size standard applicable to cellular and other wireless telecommunication companies, *i.e.*, an entity employing no more than 1,500 persons.[100] There are approximately 1,000 licensees in the Rural Radiotelephone Service, and the Commission estimates that there are 1,000 or fewer small entity licensees in the Rural Radiotelephone Service that may be affected by the rules and policies adopted herein.

34. *Air-Ground Radiotelephone Service*. The Commission uses the SBA small business size standard applicable to cellular and other wireless telecommunication companies, *i.e.*, an entity employing no more than 1,500 persons.[101] There are approximately 100 licensees in the Air-Ground Radiotelephone Service, and the Commission estimates that almost all of them qualify as small entities under the SBA standard.

35. *Offshore Radiotelephone Service*. This service operates on several ultra high frequency (UHF) TV broadcast channels that are not used for TV broadcasting in the coastal area of the states bordering the Gulf of Mexico. At present, there are approximately 55 licensees in this service. The Commission uses the SBA small business size standard applicable to cellular and other wireless telecommunication companies, *i.e.*, an entity employing no more than 1,500 persons.[102] The Commission is unable at this time to estimate the number of licensees that would qualify as small entities under the SBA standard. The Commission assumes, for purposes of this analysis, that all of the 55 licensees are small entities, as that term is defined under the SBA standard.

36. *Multiple Address Systems*. Entities using Multiple Address Systems (MAS) spectrum, in general, fall into two categories: (1) those using the spectrum for profit-based uses, and (2) those using the spectrum for private internal uses. With respect to the first category, the Commission defines "small entity" for MAS licenses as an entity that has average gross revenues of less than $15 million in the three previous calendar years.[103] "Very small business" is defined as an entity that, together with its affiliates, has average gross revenues of not more than $3 million for the preceding three calendar years.[104] The SBA has approved of these special small business size standards.[105] The majority of these entities will

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

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

[100] 13 C.F.R. § 121.201, NAICS code 517212.

[101] *Id.*

[102] *Id*.

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

[104] *Id*.

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

most likely be licensed in bands where the Commission has implemented a geographic area licensing approach that would require the use of competitive bidding procedures to resolve mutually exclusive applications. The Commission's licensing database indicates that, as of January 20, 1999, there were a total of 8,670 MAS station authorizations. Of these, 260 authorizations were associated with common carrier service. In addition, an auction for 5,104 MAS licenses in 176 EAs began November 14, 2001, and closed on November 27, 2001.[106] Seven winning bidders claimed status as small or very small businesses and won 611 licenses.

37. With respect to the second category, which consists of entities that use, or seek to use, MAS spectrum to accommodate their own internal communications needs, MAS serves an essential role in a range of industrial, safety, business, and land transportation activities. MAS radios are used by companies of all sizes, operating in virtually all U.S. business categories, and by all types of public safety entities. As noted, the SBA has developed a small business size standard for the broad economic census category, "Cellular and Other Wireless Telecommunications," which is any such entity employing no more than 1,500 persons.[107] The Commission's licensing database indicates that, as of January 20, 1999, of the 8,670 total MAS station authorizations, 8,410 authorizations were for private radio service, and of these, 1,433 were for private land mobile radio service.

38. *Incumbent 24 GHz Licensees*. The rules at issue could affect incumbent licensees who were relocated to the 24 GHz band from the 18 GHz band, and applicants who wish to provide services in the 24 GHz band. As noted, the SBA has developed a small business size standard for the broad economic census category, "Cellular and Other Wireless Telecommunications," which is any such entity employing no more than 1,500 persons.[108] The Commission believes that there are only two licensees in the 24 GHz band that were relocated from the 18 GHz band, Teligent[109] and TRW, Inc. The Commission understands that Teligent and its related companies have less than 1,500 employees, though this may change in the future. TRW is not a small entity. Thus, only one incumbent licensee in the 24 GHz band is a small business entity.

39. *Future 24 GHz Licensees*. With respect to new applicants in the 24 GHz band, the Commission has defined "small business" as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the three preceding years not exceeding $15 million.[110] "Very small business" in the 24 GHz band is defined as an entity that, together with controlling interests and affiliates, has average gross revenues not exceeding $3 million for the preceding three years.[111] The SBA has approved these size standards. At this time, no additional auction is scheduled.

40. *Cable and Other Program Distribution*. The SBA has developed a small business size standard for Cable and Other Program Distribution, which is: all such firms having $13.5 million or less in annual receipts.[112] According to Census Bureau data for 2002, there were a total of 1,191 firms in this

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

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

[108] *See id.*

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

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

[111] *24 GHz Report and Order*, 15 FCC Rcd at 16967 ¶ 77; *see also* 47 C.F.R. § 101.538(a)(1).

[112] 13 C.F.R. § 121.201, NAICS code 517510.

category that operated for the entire year.[113] Of this total, 1,087 firms had annual receipts of under $10 million, and 43 firms had receipts of $10 million or more but less than $25 million.[114] Thus, under this size standard, the majority of firms can be considered small.

41. *Cable Television Relay Service*. This service includes transmitters generally used to relay cable programming within cable television system distribution systems. The Census Bureau has defined a category of Cable and Other Program Distribution as follows: "This industry comprises establishments primarily engaged as third-party distribution systems for broadcast programming. The establishments of this industry deliver visual, aural, or textual programming received from cable networks, local television stations, or radio networks to consumers via cable or direct-to-home satellite systems on a subscription or fee basis. These establishments do not generally originate programming material."[115] The SBA has developed a small business size standard for Cable and Other Program Distribution, which is: all such firms having $13.5 million or less in annual receipts.[116] According to Census Bureau data for 2002, there were a total of 1,191 firms in this category that operated for the entire year.[117] Of this total, 1,087 firms had annual receipts of under $10 million, and 43 firms had receipts of $10 million or more but less than $25 million.[118] Thus, under this size standard, the majority of firms can be considered small.

42. *Cable Companies and Systems*. The Commission has also developed its own small business size standards, for the purpose of cable rate regulation. Under the Commission's rules, a "small cable company" is one serving 400,000 or fewer subscribers, nationwide.[119] Industry data indicate that, of 1,076 cable operators nationwide, all but eleven are small under this size standard.[120] In addition, under the Commission's rules, a "small system" is a cable system serving 15,000 or fewer subscribers.[121] Industry data indicate that, of 7,208 systems nationwide, 6,139 systems have under 10,000 subscribers, and an additional 379 systems have 10,000-19,999 subscribers.[122] Thus, under this second size standard, most cable systems are small.

43. *Cable System Operators*. The Communications Act of 1934, as amended, also contains a size standard for small cable system operators, which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than 1 percent of all subscribers in the United States and is not

[113] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, Table 4, Receipts Size of Firms for the United States: 2002, NAICS code 517510 (issued November 2005).

[114] *Id*. An additional 61 firms had annual receipts of $25 million or more.

[115] U.S. Census Bureau, 2002 NAICS Definitions, "517510 Cable and Other Program Distribution"; http://www.census.gov/epcd/naics02/def/NDEF517.HTM.

[116] 13 C.F.R. § 121.201, NAICS code 517510.

[117] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, Table 4, Receipts Size of Firms for the United States: 2002, NAICS code 517510 (issued November 2005).

[118] *Id*. An additional 61 firms had annual receipts of $25 million or more.

[119] 47 C.F.R. § 76.901(e). The Commission determined that this size standard equates approximately to a size standard of $100 million or less in annual revenues. *Implementation of Sections of the 1992 Cable Act: Rate Regulation,* Sixth Report and Order and Eleventh Order on Reconsideration, 10 FCC Rcd 7393, 7408 (1995).

[120] These data are derived from: R.R. Bowker, *Broadcasting & Cable Yearbook 2006*, "Top 25 Cable/Satellite Operators," pages A-8 & C-2 (data current as of June 30, 2005); Warren Communications News, *Television & Cable Factbook 2006*, "Ownership of Cable Systems in the United States," pages D-1805 to D-1857.

[121] 47 C.F.R. § 76.901(c).

[122] Warren Communications News, *Television & Cable Factbook 2006*, "U.S. Cable Systems by Subscriber Size," page F-2 (data current as of Oct. 2005). The data do not include 718 systems for which classifying data were not available.

affiliated with any entity or entities whose gross annual revenues in the aggregate exceed $250,000,000."[123] The Commission has determined that an operator serving fewer than 677,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all its affiliates, do not exceed $250 million in the aggregate.[124] Industry data indicate that, of 1,076 cable operators nationwide, all but ten are small under this size standard.[125] The Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed $250 million,[126] and therefore it is unable to estimate more accurately the number of cable system operators that would qualify as small under this size standard.

44. *Multichannel Video Distribution and Data Service*. Multichannel Video Distribution and Data Service (MVDDS) is a terrestrial fixed microwave service operating in the 12.2-12.7 GHz band. Licenses in this service were auctioned in January 2004, with 10 winning bidders for 192 licenses. Eight of these 10 winning bidders claimed small businesses status for 144 of these licenses.[127]

45. *Amateur Radio Service*. These licensees are believed to be individuals, and therefore are not small entities.

46. *Aviation and Marine Services*. Small businesses in the aviation and marine radio services use a very high frequency (VHF) marine or aircraft radio and, as appropriate, an emergency position-indicating radio beacon (and/or radar) or an emergency locator transmitter. The Commission has not developed a small business size standard specifically applicable to these small businesses. As noted, the SBA has developed a small business size standard for the broad economic census category, "Cellular and Other Wireless Telecommunications," which is any such entity employing no more than 1,500 persons.[128] Most applicants for recreational licenses are individuals. Approximately 581,000 ship station licensees and 131,000 aircraft station licensees operate domestically and are not subject to the radio carriage requirements of any statute or treaty. For purposes of the Commission's evaluations in this analysis, the Commission estimates that there are up to approximately 712,000 licensees that are small businesses (or individuals) under the SBA standard. In addition, between December 3, 1998 and December 14, 1998, the Commission held an auction of 42 VHF Public Coast licenses in the 157.1875-157.4500 MHz (ship transmit) and 161.775-162.0125 MHz (coast transmit) bands. For purposes of the auction, the Commission defined a "small" business as an entity that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed $15 million dollars. In addition, a "very small" business is one that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed $3 million dollars.[129] There are approximately 10,672 licensees in the Marine Coast Service, and the Commission estimates that almost all of them qualify as "small" businesses under the above special small business size standards.

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[123] 47 U.S.C. § 543(m)(2); *see* 47 C.F.R. § 76.901(f) and nn. 1-3.

[124] 47 C.F.R. § 76.901(f); *see* Public Notice*, FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, DA 01-158 (Cable Services Bureau, Jan. 24, 2001).

[125] These data are derived from: R.R. Bowker, *Broadcasting & Cable Yearbook 2006*, "Top 25 Cable/Satellite Operators," pages A-8 & C-2 (data current as of June 30, 2005); Warren Communications News, *Television & Cable Factbook 2006*, "Ownership of Cable Systems in the United States," pages D-1805 to D-1857.

[126] The Commission does receive such information on a case-by-case basis if a cable operator appeals a local franchise authority's finding that the operator does not qualify as a small cable operator pursuant to § 76.901(f) of the Commission's rules. *See* 47 C.F.R. § 76.909(b).

[127] "Multichannel Video Distribution and Data Service Auction Closes," *Public Notice*, DA 04-215 (Feb. 2, 2004).

[128] 13 C.F.R. § 121.201, NAICS code 517212.

[129] Amendment of the Commission's Rules Concerning Maritime Communications, *Third Report and Order and Memorandum Opinion and Order*, 13 FCC Rcd 19853 (1998).

47. *Personal Radio Services*. Personal radio services provide short-range, low power radio for personal communications, radio signaling, and business communications not provided for in other services. The Personal Radio Services include spectrum licensed under Part 95 of the rules.[130] These services include Citizen Band Radio Service (CB), General Mobile Radio Service (GMRS), Radio Control Radio Service (R/C), Family Radio Service (FRS), Wireless Medical Telemetry Service (WMTS), Medical Implant Communications Service (MICS), Low Power Radio Service (LPRS), and Multi-Use Radio Service (MURS).[131] There are a variety of methods used to license the spectrum in these rule parts, from licensing by rule, to conditioning operation on successful completion of a required test, to site-based licensing, to geographic area licensing. Under the RFA, the Commission is required to make a determination of which small entities are directly affected by the rules being adopted. Since all such entities are wireless, the Commission applies the small business size standard "Cellular and Other Wireless Telecommunications," pursuant to which a small entity is defined as employing 1,500 or fewer persons.[132] Many of the licensees in these services are individuals, and thus are not small entities. In addition, due to the mostly unlicensed and shared nature of the spectrum utilized in many of these services, the Commission lacks direct information upon which to base an estimation of the number of small entities under an SBA definition that might be directly affected by the proposed rules.

48. Despite the paucity, or in some instances, total absence, of information about their status as licensees or regulatees or the number of operators in each such service, users of spectrum in these services are listed here as a matter of Commission discretion in order to fulfill the mandate imposed on the Commission by the RFA to regulate small business entities with an understanding towards preventing the possible differential and adverse impact of the Commission's rules on smaller entities. Further, the listing of such entities, despite their indeterminate status, should provide them with fair and adequate notice of the possible impact of the instant proposals.

49. *Public Safety Radio Licensees*. As a general matter, public safety radio licensees include police, fire, local government, forestry conservation, highway maintenance, and emergency medical services.[133] The SBA rules contain a small business size standard for "Cellular and Other Wireless Telecommunications," which encompass business entities engaged in wireless communications

[130] 47 C.F.R. Part 90.

[131] The Citizens Band Radio Service, General Mobile Radio Service, Radio Control Radio Service, Family Radio Service, Wireless Medical Telemetry Service, Medical Implant Communications Service, Low Power Radio Service, and Multi-Use Radio Service are governed by Subpart D, Subpart A, Subpart C, Subpart B, Subpart H, Subpart I, Subpart G, and Subpart J, respectively, of Part 95 of the Commission's rules. *See generally* 47 C.F.R. Part 95.

[132] 13 C.F.R. § 121.201, NAICS Code 517212.

[133] *See* subparts A and B of Part 90 of the Commission's Rules, 47 C.F.R. §§ 90.1-90.22. Police licensees include 26,608 licensees that serve state, county, and municipal enforcement through telephony (voice), telegraphy (code), and teletype and facsimile (printed material). Fire licensees include 22,677 licensees comprised of private volunteer or professional fire companies, as well as units under governmental control. Public Safety Radio Pool licensees also include 40,512 licensees that are state, county, or municipal entities that use radio for official purposes. There are also 7,325 forestry service licensees comprised of licensees from state departments of conservation and private forest organizations that set up communications networks among fire lookout towers and ground crews. The 9,480 state and local governments are highway maintenance licensees that provide emergency and routine communications to aid other public safety services to keep main roads safe for vehicular traffic. Emergency medical licensees (1,460) use these channels for emergency medical service communications related to the delivery of emergency medical treatment. Another 19,478 licensees include medical services, rescue organizations, veterinarians, persons with disabilities, disaster relief organizations, school buses, beach patrols, establishments in isolated areas, communications standby facilities, and emergency repair of public communications facilities.

employing no more than 1,500 persons.[134] According to Census Bureau data for 2002, in this category there was a total of 8,863 firms that operated for the entire year.[135] Of this total, 401 firms had 100 or more employees, and the remainder had fewer than 100 employees.[136] With respect to local governments, in particular, since many governmental entities as well as private businesses comprise the licensees for these services, the Commission includes under public safety services the number of government entities affected.

50. *Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing*. The Census Bureau defines this category as follows: "This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment."[137] The SBA has developed a small business size standard for Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing, which is: all such firms having 750 or fewer employees.[138] According to Census Bureau data for 2002, there were a total of 1,041 establishments in this category that operated for the entire year.[139] Of this total, 1,010 had employment of under 500, and an additional 13 had employment of 500 to 999.[140] Thus, under this size standard, the majority of firms can be considered small.

E. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

51. The projected reporting, recordkeeping, and other compliance requirements resulting from the Report and Order will apply to all entities in the same manner. The Commission believes that applying the same rules equally to all entities promotes fairness. The Commission does not believe that the costs and/or administrative burdens associated with the rules will unduly burden small entities. The revisions the Commission adopts should benefit small entities by giving them more information, more flexibility, and more options for gaining access to valuable wireless spectrum.

52. Renewal Procedures. In this *Report and Order*, the Commission revises Section 27.14 of the rules to eliminate the filing of competing applications at the time of the renewal of 700 MHz licenses. This rule change will relieve all licensees, including small businesses that hold or will hold licenses in the

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[134] *See* 13 C.F.R. § 121.201 (NAICS code 517212); U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Employment Size of Establishments for the United States: 2002," Table 2, NAICS code 517212.

[135] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Employment Size of Establishments for the United States: 2002," Table 2, NAICS code 517212.

[136] *Id.*

[137] U.S. Census Bureau, 2002 NAICS Definitions, "334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing"; http://www.census.gov/epcd/naics02/def/NDEF334.HTM#N3342.

[138] 13 C.F.R. § 121.201, NAICS code 334220.

[139] U.S. Census Bureau, American FactFinder, 2002 Economic Census, Industry Series, Industry Statistics by Employment Size, NAICS code 334220 (released May 26, 2005); http://factfinder.census.gov. The number of "establishments" is a less helpful indicator of small business prevalence in this context than would be the number of "firms" or "companies," because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the Census breaks-out data for firms or companies only to give the total number of such entities for 2002, which was 929.

[140] *Id*. An additional 18 establishments had employment of 1,000 or more.

700 MHz Band the burden of possibly facing a comparative hearing. The *Report and Order* also clarifies that within the renewal context, all licensees must make a substantial service showing and demonstrate that they have substantially complied with the Commission's rules, policies, and the Communications Act of 1934, as amended.[141] This requirement is distinct from the performance requirements that the Commission seeks comment on in the *Further Notice*.

53. 911/E911. There is no general reporting or recordkeeping requirements for 911/E911 compliance. The 911/E911 obligations established in Section 20.18 of our rules, however, are extended to cover all commercial mobile radio services (CMRS), including services licensed in the 700 MHz Commercial Services Band and the AWS-1 bands, to the same extent as they apply to wireless services currently listed in the scope provision of Section 20.18. The Commission will continue, however, to exclude MSS from Section 20.18 in conformity with the Commission's decision in the *E911 Scope Order*.[142] All other CMRS providers must comply with the 911/E911 requirements to the extent that they offer real-time, two way switched voice service that is interconnected with the public switched network and utilize an in-network-switching facility that enables the provider to reuse frequencies and accomplish seamless hand-offs of subscriber calls.[143] The Commission finds that this extension of 911/E911 requirements, while substantial for small carriers, is justified by the interest in competitive neutrality as well as by the critical public safety benefits of 911/E911. To the extent that special circumstances arise in particular situations where compliance may not be technically or economically feasible, waiver relief is available on a case-by-case basis. In addition, to the extent that carriers pursue a handset-based compliance solution, implementation should be easier than in previous 911/E911 compliance instances involving other services. Given that the 911/E911 requirements in Part 27 will be imposed prior to the commencement of services in the 700 MHz band, all of the subscribers to the new services will have compliant handsets from the commencement of service. Small carriers will therefore not have the complication of replacing phones that lack 911/E911 capability.

54. Public Safety Notification. In this *Report and Order*, the Commission takes steps to address potential intermodulation ("IM") to public safety operations in the 700 MHz Band. Specifically, as the Commission did with respect to 800 MHz ESMR and Cellular licensees,[144] the Commission will require 700 MHz Commercial Services Band licensees, upon request from a 700 MHz public safety entity, to provide to that entity information about the location and parameters of any stations they plan to activate in the public safety entity's area of operation.[145] The Commission will also require, as it did in

[141] *See* 47 C.F. R.§ 27.14 (2006).

[142] The Commission initially excluded MSS from § 20.18 in the *E911 Report and Order*. *See* Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, *Report and Order and Further Notice of Proposed Rulemaking*, 11 FCC Rcd 18676, 18718 ¶ 83 (1996) (*E911 Report and Order)*. In the *E911 Scope Order*, upon revisiting the issue, the Commission recognized that MSS operators continued to faced unique difficulties in implementing 911 and E911 obligations, and therefore declined to apply the obligations of § 20.18 and instead imposed a separate, limited 911 requirement specifically for MSS, including a requirement to establish emergency call centers. *See* Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket 94-102, IB Docket No. 99-67, *Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 25340, 25347-57 ¶¶ 20-39 (2003) ("*E911 Scope Order*").

[143] 47 C.F.R. § 20.18(a).

[144] *See* 47 C.F.R. § 90.675.

[145] As per Section 90.675, this would include information about the 700 MHz station's location, effective radiated power, antenna height, and channels available for use. 47 C.F.R. § 90.675. Also, as per Section 90.675, Public Safety licensees will not be afforded the right to accept or reject the activation of a proposed 700 MHz station or to unilaterally require changes to the station's operating parameters. We note as well that 700 MHz licensees may regard their operating parameters as proprietary and if so, we encourage such licensees to use non-disclosure agreement whereby third parties will not be given access to such information. Failing that, the affected parties could (continued….)

Section 90.675, public safety licensees to provide, upon request of a 700 MHz Commercial Services Band licensee, the operating parameters of their radio systems.[146] As indicated in the *800 MHz Report and Order*, these actions can both help prevent potential interference from occurring and help identify possible sources of interference more rapidly, if interference were to occur.[147] It is not anticipated that it will be onerous for small businesses to come into compliance with this requirement, which is triggered only upon a request from a public safety entity. The information to be reported is of a type that the licensee will likely have readily available.

55. Application of Secondary Markets Spectrum Leasing Policies and Rules to the Guard Bands. Although the *Report and Order* replaces the Guard Band Manager spectrum leasing regime with the Secondary Markets spectrum leasing policies and rules, it sustains the requirements that applied to the Guard Band Manager regime with respect to the necessity to file annual reports with the Commission on spectrum use, as well as mandatory coordination with public safety entities for all uses of spectrum including that procured through leasing arrangements. The *Report and Order* also eliminates restrictions that had prevented Guard Band licensees from using their spectrum as system operators, and from leasing any more than 49.9 percent of their spectrum to affiliates.

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

56. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include (among others) the following four alternatives: (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[148]

57. In the *700 MHz Commercial Services Notice*, the Commission invited comment on extending the license terms of 700 MHz Band licenses to an expiration date beyond 2015 in order to afford licensees a sufficient period of time for deployment of new 700 MHz Band services once the DTV transition is complete. In addition, the *Notice* sought comment on whether the power limits in the existing rules for the 700 MHz Band spectrum should be revised. Finally, the Commission sought comment on its tentative conclusion that services provided in the 700 MHz Band, and in other bands

(Continued from previous page)
seek a protective order from the Commission. *See* Digital Output Protection Technology and Recording Method Certifications, *Order*, 19 FCC Rcd 4735 (2004). *See also* 47 C.F.R §§ 0.457, 0.459. We also encourage, but do not require, that such matters be submitted to arbitration, mediation, or other alternative dispute resolution mechanisms.

[146] Public Safety licensees will also be required to provide information about any technical changes they plan to make to their systems.

[147] *See* Improving Public Safety Communications in the 800 MHz Band, Consolidating the 800 and 900 MHz Industrial/Land Transportation and Business Pool Channels, 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, Petition for Rule Making of the Wireless Information Networks Forum Concerning the Unlicensed Personal Communications Service, Petition for Rule Making of UT Starcom, Inc., Concerning the Unlicensed Personal Communications Service, Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by the Mobile Satellite Service, WT Docket 02-55, ET Docket Nos. 00-258 and 95-18, RM-9498, RM-10024, *Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order*, 19 FCC Rcd 14969, 15038-39 ¶ 125 (2004) ("*800 MHz Report and Order*") ("if the characteristics of a proposed new cell are known in advance, it is possible to analyze the cell's potential for interference and make any necessary revisions to cell parameters before the cell is activated"), 15039 ¶ 127.

[148] 5 U.S.C. § 603(c).

subject to Part 27 of the rules such as AWS-1, should be subject to E911 and hearing aid-compatibility requirements to the same extent that such services would be covered if provided in other bands, and on whether such requirements should be extended to all similar wireless services.

58. Small Geographic Service Areas. A number of small and rural service providers, as well as a several different coalitions of small, regional, and rural carriers proposed a mix of service areas that would include 12 REAGs, 176 EAs, and 734 CMAs, instead of just six EAGs. Several national carriers filed comments in support of leaving the EAG pattern in place. Separate comments were also received seeking a nationwide license and license areas smaller than CMAs.

59. The Commission concluded that providing a mix of CMAs, EAs, and REAGs licenses in the 700 MHz Commercial Services spectrum will be an effective means of providing increased access to spectrum, especially in rural areas, while simultaneously meeting other Commission goals. The Commission agrees with those commenters who observe that a revised mix of smaller license sizes would provide a more balanced set of initial licensing opportunities at this time and make available more licenses to match the needs of different potential users.[149] The most common recommendation made to the Commission by small and rural providers was that additional licenses be made available based on small geographic service areas.[150] Some of these commenters asserted in particular that the use of small geographic license areas provides an incentive for licensees to serve more rural communities, whereas licensing by large geographic license areas may allow licensees to meet their performance requirements only by serving the largest urban markets.[151]

60. Power Limits and Public Safety Notification. In this *Report and Order*, the Commission takes steps to address potential intermodulation ("IM") to public safety operations in the 700 MHz band in a manner that minimizes the impact on commercial licensees in the Upper 700 MHz Band, including small businesses with commercial operations in this band. The Commission declines to impose any technical restrictions on Upper 700 MHz Commercial Services Band licensees to address potential IM interference to 700 MHz public safety operations. The Commission will, however, require Upper 700 MHz Commercial Services Band licensees and 700 MHz public safety entities, upon request from the other, to exchange information about their operating stations and systems. A reporting requirement triggered only by a request of a public safety entity operating on the 700 MHz Band will minimize economic impact on small businesses operating in the commercial 700 MHz Band relative to the alternative of imposing potentially burdensome technical restrictions on Upper 700 MHz Commercial Services Band licensees to address potential IM interference to 700 MHz public safety operations.

61. 911/E911. Almost all of the commenters addressing the 911/E911 issue support application of the 911/E911 requirements to services in the 700 MHz Commercial Services Band to the

[149] *See* Letter from Multiple Commenters to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 06-150 (filed October 20, 2006) ("Balanced Consensus Plan") (signatories to the Balanced Consensus Plan are Alltel, Aloha, Blooston, C&W, ConnectME Authority, Corr, Dobson, Leap, Maine Office of Chief Information Officer, MetroPCS, NTCA, Nebraska PSC, North Dakota PSC, RCA, RTG, Union, US Cellular, Vermont et al., Vermont Telephone Company); U.S. Cellular Comments in WT Docket 06-150 at 3; Corr Comments in WT Docket 06-150 at 3; NTCA Comments in WT Docket 06-150 at 5-6.

[150] *See* Aloha Comments in WT Docket 06-150 at 3-6; Balanced Consensus Plan at attachment; Blooston Comments in WT Docket 06-150 at 2; C&W Reply Comments in WT Docket 06-150 at 2-3; Corr Comments in WT Docket 06-150 at 2-4; Dobson Comments in WT Docket 06-150 at 2-4; Howard/Javed Comments in WT Docket 06-150 at 9; Leap Comments in WT Docket 06-150 at 4, 5-6; MilkyWay Comments in WT Docket 06-150 at 1-6; NextWave Comments in WT Docket 06-150 at 2-6; NTCA Comments in WT Docket 06-150 at 6; OPASTCO Comments in WT Docket 06-150 at 2-3; RCA Comments at 4-8; RTG Comments in WT Docket 06-150 at 2; U.S. Cellular Comments in WT Docket 06-150 at 4.

[151] *See* Corr Comments in WT Docket 06-150 at 4; RCA Comments in WT Docket 06-150 at 9-10.

extent that those services are similar to the services already subject to the requirements.[152] Several commenters also state, however, that E911 should not apply to 700 MHz Commercial Services Band services to a greater extent than it does to services currently subject to the requirements.[153]

62. The Commission concludes that Section 20.18(a) of its rules should be amended to apply 911/E911 requirements to all commercial mobile radio services (CMRS), including services licensed in the 700 MHz Commercial Services Band and the AWS-1 bands, to the same extent as they apply to wireless services currently listed in the scope provision of Section 20.18.[154] For those small carriers who can demonstrate in a particular circumstance that implementation is not technically or economically feasible, the option of waiver relief is available. The *Report and Order* concludes, however, that such case-by-case circumstances, if any, should not delay the implementation of 911/E911 for service providers generally. In this regard, the Commission has observed previously that "911 service is critical to our Nation's ability to respond to a host of crises,"[155] and that E911 in particular "saves lives and property by helping emergency services personnel do their jobs more quickly and efficiently."[156] The Commission also takes note of Congress's finding in the "Ensuring Needed Help Arrives Near Callers Employing 911 Act of 2004" that "for the sake of our Nation's homeland security and public safety, a universal emergency telephone number (911) that is enhanced with the most modern and state-of-the-art telecommunications capabilities possible should be available to all citizens in all regions of the Nation" and that "enhanced 911 is a high national priority."[157]

63. Application of Secondary Markets Spectrum Leasing Policies and Rules to the Guard Bands. The Report and Order maintains the existing requirement for Guard Band licensees to file annual reports regarding their spectrum usage, and thus does not increase the existing recordkeeping and reporting burden. Additionally, the *Report and Order* maintains the existing coordination requirements where all uses of Guard Bands spectrum must be coordinated with public safety operations in the 700 MHz Band. Under the *de jure* transfer leasing option within the Secondary Markets spectrum leasing policies and rules, the Guard Band licensee continues to be responsible for coordinating with the public safety operations. Under the *de facto* transfer leasing option, the lessee becomes primarily responsible for such coordination. As a result, to the extent that a Guard Band licensee is a small entity, the availability of the *de facto* transfer leasing option under the *Report and Order* reduces the overall potential burden on the Guard Band licensee, compared to its previous responsibility as a Guard Band Manager to coordinate all uses of its spectrum.

G. Report to Congress

64. The Commission will send a copy of the *Report and Order*, including this FRFA, in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional

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[152] *See* Aloha Comments in WT Docket 06-150 at 12; AT&T Comments in WT Docket 06-150 at 16; Blooston Comments in WT Docket 06-150 at 8; Cingular Comments in WT Docket 06-150 at 15; Dobson Comments in WT Docket 06-150 at 11; Leap Comments in WT Docket 06-150 at 11; NENA Comments in WT Docket 06-150 at 1-2; Qualcomm Comments in WT Docket 06-150 at 24 (supporting application of E911 to both auctioned and previously unauctioned spectrum); U.S. Cellular Comments in WT Docket 06-150 at 18 (same); TIA Comments in WT Docket 06-150 at 9-10; T-Mobile Reply at 6.

[153] *See* Aloha Comments in WT Docket 06-150 at 12 (700 MHz licensees should be subject to the same E911 requirements, "no more or less," as other licensees providing services where E911 obligations exist); Cingular Comments in WT Docket 06-150 at 15 (supporting application where services met the *E911 Scope Order* criteria); Qualcomm Comments at 24.

[154] *See* 47 C.F.R. § 20.18.

[155] *See E911 Scope Order*, 18 FCC Rcd at 25341 ¶ 1.

[156] *E911 Report and Order*, 11 FCC Rcd at 18678 ¶ 3, 18679 ¶ 5.

[157] 47 U.S.C. § 942, notes (1), (4).

Review Act.[158] In addition, the Commission will send a copy of the *Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Report and Order* and FRFA (or summaries thereof) will also be published in the Federal Register.[159]

[158] *See* 5 U.S.C. § 801(a)(1)(A).

[159] *See* 5 U.S.C. § 604(b).

APPENDIX D

Initial Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (the "RFA"),[1] the Commission has prepared this Initial Regulatory Flexibility Analysis ("IRFA") of the possible significant economic impact of the policies and rules proposed in the *Further Notice of Proposed Rulemaking* ("*Further Notice*") on a substantial number of small entities.[2] Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *Further Notice* provided in paragraph 297 of the item. The Commission will send a copy of the *Further Notice*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration ("SBA").[3] In addition, the *Further Notice* and IRFA (or summaries thereof) will be published in the Federal Register.[4]

2. Although Section 213 of the Consolidated Appropriations Act of 2000 provides that the RFA shall not apply to the rules and competitive bidding procedures for frequencies in the 746-806 MHz Band,[5] the Commission believes that it would serve the public interest to analyze the possible significant economic impact of the proposed policy and rule changes in this band on small entities. Accordingly, this IRFA contains an analysis of this impact in connection with all spectrum that falls within the scope of this *Further Notice*, including spectrum in the 746-806 MHz Band.

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

3. The *Further Notice* encompasses issues pertinent to all three of our 700 MHz proceedings, as well as to Frontline's proposal. First, based on the record developed in connection with the *700 MHz Commercial Services Notice,* the Further *Notice* proposes several band plans that include a mix of small, medium and large geographic area licenses.

4. Second, the *Further Notice* also proposes to replace the current substantial service requirement with a geographic-based performance requirement, and seeks comment on this suggestion.

5. Third, the *Further Notice* tentatively concludes that the Commission can adopt neither the Broadband Optimization Plan (BOP), nor the proposals to reallocate and reassign commercial spectrum to critical infrastructure industries (CII) or public safety entities, because we do not have the statutory authority to adopt key components of the proposals. Irrespective of the lack of statutory authority, the *Further Notice* also tentatively concludes that the BOP and CII proposals would not be in the public interest, because of the manner in which they propose to assign commercial licenses outside of a competitive bidding context, and because they could introduce an increased possibility of interference.

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

[2] *See* 5 U.S.C. § 603. Although we are conducting an IRFA at this stage in the process, it is foreseeable that ultimately we will certify this action pursuant to the RFA, because we anticipate at this time that any rules adopted pursuant to this *Notice* will have no significant economic impact on a substantial number of small entities. *See* 5 U.S.C. § 605(b).

[3] *See* 5 U.S.C. § 603(a).

[4] *See* 5 U.S.C. § 603(a).

[5] In particular, this exemption extends to the requirements imposed by Chapter 6 of Title 5, United States Code, Section 3 of the Small Business Act (15 U.S.C. 632) and Sections 3507 and 3512 of Title 44, United States Code. Consolidated Appropriations Act 2000, Pub. L. No. 106-113, 113 Stat. 2502, Appendix E, Sec. 213(a)(4)(A)-(B); *see* 145 Cong. Rec. H12493-94 (Nov. 17, 1999); 47 U.S.C.A. 337 note at Sec. 213(a)(4)(A)-(B).

6. Fourth, the *Further Notice* asks certain questions specifically related to the current Upper 700 MHz Guard Bands, in the event that the Commission maintains the current sizes and locations of either block of the Guard Bands licenses. The *Further Notice* also seeks comment on the alternative Guard Bands proposal recently submitted by Access Spectrum and Pegasus, as well as variations on that proposal.

7. Fifth, the *Further Notice* seeks to achieve broadband communications capabilities consistent with a nationwide interoperability standard for public safety. The Commission expects that modern public safety services will increasingly depend on the advanced communications capabilities afforded by wireless broadband technologies, which should enable first responders to perform their vital safety-of-life and other critical roles. The *Further Notice* tentatively concludes to redesignate the wideband spectrum to broadband use that would be consistent with a nationwide interoperability standard, and to prohibit wideband operations on a going forward basis. The *Further Notice* then seeks comment on a tentative conclusion to consolidate the narrowband spectrum to the top of the Public Safety Band, locate the broadband spectrum at the bottom of the Public Safety Band, and divide these segments with an internal guard band. Given this tentative conclusion, the *Further Notice* also seeks comment on a limited set of issues that would need to be resolved in order to effectuate the reconfiguration. This proposed reconfiguration would reduce the amount of spectrum necessary to separate and protect the public safety broadband and narrowband allocations, and could facilitate partnerships between public safety broadband operations and adjacent commercial broadband technologies, thereby optimizing the 700 MHz public safety band plan.

8. Finally, the *Further Notice* seeks comment on the "Public Safety Broadband Deployment Plan" proposal submitted very recently by Frontline Wireless, which if adopted in some form potentially would affect decisions in all three proceedings.

B. Legal Basis

9. The legal authority for the actions proposed in this rulemaking are contained in sections 1, 2, 4(i), 5(c), 7, 10, 201, 202, 208, 214, 301, 302, 303, 307, 308, 309, 310, 311, 314, 316, 319, 324, 332, 333, 336, 337, 614, 615, and 710 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 152, 154(i), 155(c), 157, 160, 201, 202, 208, 214, 301, 302, 303, 307, 308, 309, 310, 311, 314, 316, 319, 324, 332, 333, 336, and 337.

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

10. The RFA directs agencies to provide a description of, and where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.[6] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[7] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[8] A "small business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration

[6] 5 U.S.C. § 603(b)(3).

[7] 5 U.S.C. § 601(6).

[8] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small-business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

("SBA").[9]

11. *Small Businesses*. Nationwide, there are a total of approximately 22.4 million small businesses, according to SBA data.[10]

12. *Small Organizations*. Nationwide, there are approximately 1.6 million small organizations.[11]

13. *Governmental Entities*. The term "small governmental jurisdiction" is defined as "governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."[12] As of 2002, there were approximately 87,525 governmental jurisdictions in the United States.[13] This number includes 38,967 county governments, municipalities, and townships, of which 37,373 (approximately 95.9%) have populations of fewer than 50,000, and of which 1,594 have populations of 50,000 or more. Thus, we estimate the number of small governmental jurisdictions overall to be 85,931 or fewer.

14. *Wireless Service Providers*. The SBA has developed a small business size standard for wireless firms within the two broad economic census categories of "Paging"[14] and "Cellular and Other Wireless Telecommunications."[15] Under both categories, the SBA deems a wireless business to be small if it has 1,500 or fewer employees. For the census category of Paging, Census Bureau data for 2002 show that there were 807 firms in this category that operated for the entire year.[16] Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.[17] Thus, under this category and associated small business size standard, the majority of firms can be considered small. For the census category of Cellular and Other Wireless Telecommunications, Census Bureau data for 2002 show that there were 1,397 firms in this category that operated for the entire year.[18] Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.[19] Thus, under this second category and size standard, the majority of firms can, again, be considered small.

15. Under this *Further Notice*, any of the changes to the Commission's rules which may occur as a result of the *Further Notice* would be limited to the 698-806 MHz spectrum band. Since this rulemaking proceeding applies to services in that band, this IRFA analyzes the number of small entities

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[9] 15 U.S.C. § 632.

[10] *See* SBA, Programs and Services, SBA Pamphlet No. CO-0028, at page 40 (July 2002).

[11] Independent Sector, The New Nonprofit Almanac & Desk Reference (2002).

[12] 5 U.S.C. § 601(5).

[13] U.S. Census Bureau, Statistical Abstract of the United States: 2006, Section 8, pages 272-273, Tables 415 and 417.

[14] 13 C.F.R. § 121.201, NAICS code 517211.

[15] 13 C.F.R. § 121.201, NAICS code 517212.

[16] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization," Table 5, NAICS code 517211 (issued Nov. 2005).

[17] *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

[18] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization," Table 5, NAICS code 517212 (issued Nov. 2005).

[19] *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

affected on a service-by-service basis. When identifying small entities that could be affected by the Commission's new rules, this IRFA provides information describing auctions results, including the number of small entities that were winning bidders. However, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily reflect the total number of small entities currently in a particular service. The Commission does not generally require that licensees later provide business size information, except in the context of an assignment or transfer of control application where unjust enrichment issues are implicated. Consequently, to assist the Commission in analyzing the total number of potentially affected small entities, the Commission requests commenters to estimate the number of small entities that may be affected by any rule changes that might result from this *Further Notice*.

16. *700 MHz Guard Band Licenses*. In the *700 MHz Guard Band Order*, the Commission adopted size standards for "small businesses" and "very small businesses" for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.[20] A small business in this service is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $40 million for the preceding three years.[21] Additionally, a "very small business" is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $15 million for the preceding three years.[22] SBA approval of these definitions is not required.[23] An auction of 52 Major Economic Area (MEA) licenses commenced on September 6, 2000, and closed on September 21, 2000.[24] Of the 104 licenses auctioned, 96 licenses were sold to nine bidders. Five of these bidders were small businesses that won a total of 26 licenses. A second auction of 700 MHz Guard Band licenses commenced on February 13, 2001, and closed on February 21, 2001. All eight of the licenses auctioned were sold to three bidders. One of these bidders was a small business that won a total of two licenses.[25]

17. *Upper 700 MHz Band Licenses*. The Commission released a *Report and Order* authorizing service in the Upper 700 MHz band.[26] An auction for these licenses, previously scheduled for January 13, 2003, was postponed.[27]

18. *Lower 700 MHz Band Licenses*. The Commission adopted criteria for defining three groups of small businesses for purposes of determining their eligibility for special provisions such as bidding credits.[28] The Commission has defined a small business as an entity that, together with its

[20] *See* Service Rules for the 746-764 MHz Bands, and Revisions to Part 27 of the Commission's Rules, *Second Report and Order*, 15 FCC Rcd 5299 (2000).

[21] *Id*. at 5343 ¶ 108.

[22] *Id*.

[23] *Id*. At 5343 ¶ 108 n.246 (for the 746-764 MHz and 776-704 MHz bands, the Commission is exempt from 15 U.S.C. § 632, which requires Federal agencies to obtain Small Business Administration approval before adopting small business size standards).

[24] *See* "700 MHz Guard Bands Auction Closes: Winning Bidders Announced," *Public Notice*, 15 FCC Rcd 18026 (2000).

[25] *See* "700 MHz Guard Bands Auctions Closes: Winning Bidders Announced," *Public Notice*, 16 FCC Rcd 4590 (WTB 2001).

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

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

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

affiliates and controlling principals, has average gross revenues not exceeding $40 million for the preceding three years.[29] A very small business is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $15 million for the preceding three years.[30] Additionally, the Lower 700 MHz Band has a third category of small business status that may be claimed for Metropolitan/Rural Service Area (MSA/RSA) licenses. The third category is entrepreneur, which is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $3 million for the preceding three years.[31] The SBA has approved these small size standards.[32] An auction of 740 licenses (one license in each of the 734 MSAs/RSAs and one license in each of the six Economic Area Groupings (EAGs)) commenced on August 27, 2002, and closed on September 18, 2002. Of the 740 licenses available for auction, 484 licenses were sold to 102 winning bidders. Seventy-two of the winning bidders claimed small business, very small business or entrepreneur status and won a total of 329 licenses.[33] A second auction commenced on May 28, 2003, and closed on June 13, 2003, and included 256 licenses: 5 EAG licenses and 476 CMA licenses.[34] Seventeen winning bidders claimed small or very small business status and won sixty licenses, and nine winning bidders claimed entrepreneur status and won 154 licenses.[35]

19. *Public Safety Radio Licensees*. As a general matter, public safety radio licensees include police, fire, local government, forestry conservation, highway maintenance, and emergency medical services.[36] The SBA rules contain a small business size standard for cellular and other wireless telecommunications companies, which encompasses business entities engaged in wireless communications employing no more than 1,500 persons.[37] According to Census Bureau data for 2002, in this category there were 8,863 firms that operated for the entire year.[38] Of this total, 401 firms had 100 or

[29] *Id.* at 1087-88 ¶ 172.

[30] *Id.*

[31] *Id.* at 1088 ¶ 173.

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

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

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

[35] *Id*.

[36] *See* subparts A and B of Part 90 of the Commission's Rules, 47 C.F.R. §§ 90.1-90.22. Police licensees include 26,608 licensees that serve state, county, and municipal enforcement through telephony (voice), telegraphy (code), and teletype and facsimile (printed material). Fire licensees include 22,677 licensees comprised of private volunteer or professional fire companies, as well as units under governmental control. Public Safety Radio Pool licensees also include 40,512 licensees that are state, county, or municipal entities that use radio for official purposes. There are also 7,325 forestry service licensees comprised of licensees from state departments of conservation and private forest organizations that set up communications networks among fire lookout towers and ground crews. The 9,480 state and local governments are highway maintenance licensees that provide emergency and routine communications to aid other public safety services to keep main roads safe for vehicular traffic. Emergency medical licensees (1,460) use these channels for emergency medical service communications related to the delivery of emergency medical treatment. Another 19,478 licensees include medical services, rescue organizations, veterinarians, persons with disabilities, disaster relief organizations, school buses, beach patrols, establishments in isolated areas, communications standby facilities, and emergency repair of public communications facilities.

[37] *See* 13 C.F.R. § 121.201 (NAICS code 517212); U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Employment Size of Establishments for the United States: 2002," Table 2, NAICS code 517212.

[38] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Employment Size of Establishments for the United States: 2002," Table 2, NAICS code 517212.

more employees, and the remainder had fewer than 100 employees.[39] With respect to local governments, in particular, since many governmental entities as well as private businesses comprise the licensees for these services, we include under public safety services the number of government entities affected.

20. *Wireless Communications Equipment Manufacturers; Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing*. The Census Bureau defines this category as follows: "This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment."[40] The SBA has developed a small business size standard for Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing, which is: all such firms having 750 or fewer employees.[41] According to Census Bureau data for 2002, there were a total of 1,041 establishments in this category that operated for the entire year.[42] Of this total, 1,010 had employment of under 500, and an additional 13 had employment of 500 to 999.[43] Thus, under this size standard, the majority of firms can be considered small.

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

21. Performance Requirements. The *Further Notice* proposes to replace the current substantial service requirement with a geographic-based performance requirement, and seeks comment on this suggestion.

22. Incumbent Eligibility. The *Further Notice* seeks comment on a proposal to encourage the entry of new competitors by excluding incumbent local exchange carriers (ILECs), incumbent cable operators, and large wireless carriers from eligibility for licenses in the 700 MHz Band. The *Further Notice* also seeks comment on whether incumbents should only be eligible for licenses in the 700 MHz band through structurally separate affiliates, which would make it possible to detect whether the incumbent receives more favorable treatment than unaffiliated providers. The *Further Notice* seeks comment on whether the Commission should encourage the entry of new broadband competitors through lesser restrictions on eligibility for obtaining new licenses, both at auction and in the secondary market. Finally, as an alternative to limiting the parties eligible for new licenses in the 700 MHz Band, the *Further Notice* seeks comment on whether parties unaffiliated with incumbent wireline broadband service providers should receive a bidding credit on licenses in the Upper 700 MHz C Block, and how such new entrant bidding credits should be coordinated with existing bidding credits for small businesses (*i.e.*, whether new entrant credits should be cumulative or exclusive of small business bidding credits).

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[39] *Id.*

[40] U.S. Census Bureau, 2002 NAICS Definitions, "334220 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing"; http://www.census.gov/epcd/naics02/def/NDEF334.HTM#N3342.

[41] 13 C.F.R. § 121.201, NAICS code 334220.

[42] U.S. Census Bureau, American FactFinder, 2002 Economic Census, Industry Series, Industry Statistics by Employment Size, NAICS code 334220 (released May 26, 2005); http://factfinder.census.gov. The number of "establishments" is a less helpful indicator of small business prevalence in this context than would be the number of "firms" or "companies," because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the Census breaks-out data for firms or companies only to give the total number of such entities for 2002, which was 929.

[43] *Id*. An additional 18 establishments had employment of 1,000 or more.

23. Anonymous Bidding. The *Further Notice* seeks comment on whether the Commission should use limited information (or "anonymous bidding") procedures in the upcoming auction of new 700 MHz licenses, in order to deter anticompetitive behavior that may be facilitated by the release of information on bidder interests and identities.

24. Public Safety Broadband. The *Further Notice* tentatively concludes to redesignate the wideband spectrum to broadband use that would be consistent with a nationwide interoperability standard, and to prohibit wideband operations on a going forward basis. The Commission has issued no licenses for wideband channels. Furthermore, although two special temporary authorizations (STAs) have been issued for wideband operations, to the extent a public safety entity has constructed, deployed and is currently operating, as of the release date of the accompanying *Report and Order*, a wideband system pursuant to a grant of STA, and has reason to continue such operations beyond the current term of the STA, the *Further Notice* states that the Commission will work with such entity to extend such authority. The *Further Notice* also seeks comment on a tentative conclusion to consolidate the narrowband channels to the top of the public safety band, locate the broadband spectrum at the bottom of the public safety band, and divide these segments with an internal guard band. These tentative conclusions may entail additional reporting, recordkeeping or other compliance efforts by existing public safety entities. The *Further Notice* does not otherwise propose any additional reporting, recordkeeping or other compliance requirements.

25. Frontline Proposal. The *Further Notice* seeks comment on Frontline's proposed "Public Safety Broadband Deployment Plan." This plan would alter the upper portion of the band plan and service rules in order to auction a single nationwide 10-megahertz license (a new "E Block"). The "E Block" licensee would be required to meet certain build-out benchmarks, and would be required to provide priority access for public safety broadband operations during times of emergency as specified in a Network Sharing Agreement. Under the proposal, the "E Block" licensee would be required to operate as a wholesale provider with respect to commercial use of the "E Block" spectrum. It also would be required to provide open access to its network, allowing the attachment of any device to the network and permitting users to access services and content provided by unaffiliated parties. In addition, Frontline's proposal would require the "E Block" licensee to offer roaming to any provider with customers utilizing devices compatible with the "E Block" network, with such obligation extended to all spectrum holdings of the "E Block" licensee. Frontline's proposal also would require the "E Block" licensee to operate only as a wholesale provider with respect to commercial use of the "E Block" license, *i.e.*, it must have wholesale agreements for 100 percent of its spectrum capacity.

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

26. The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such 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 such small entities."[44]

27. Performance Requirements. Commenters who are small carriers could be found among commenters who supported both a substantial service requirement and a "keep what you use" framework. Some small CMRS providers recommended a combination of both population- and geography-based construction benchmark in the context of a "keep-what-you-use" approach.[45] The *Further Notice*

[44] 5 U.S.C. §§ 603(c)(1)-(4).

[45] *See, e.g.,* DirecTV/EchoStar Comments in WT Docket 06-150 at 9; Navajo Nation Comments in WT Docket 06-150 at 2-3; RCA Comments in WT Docket 06-150 at 8-10; Vermont Department of Public Service, *et al.* Comments (continued….)

proposes to replace the current substantial service requirement with a geographic-based performance requirement, and seeks comment on this suggestion.

28. By establishing clear benchmarks, the Commission would provide small licensees with regulatory certainty regarding the requirements that they must meet or, if they do not, permit other providers to gain access to the spectrum to provide services to consumers. The adoption of more stringent benchmarks also would complements the Commission's determination to auction additional licenses based on smaller geographic areas to promote access to spectrum and the provision of service, especially in rural areas.

29. The Commission recognizes that the existing substantial service standard could allow providers, including small carriers, additional flexibility with regard to their development and deployment of certain services.[46] The Commission determines, however, that given the excellent propagation characteristics of this spectrum, the benefits of service being offered before the end of the license term, and the public interest that would be served by ensuring additional service in the more rural and remote areas of this country, more rigorous requirements may be appropriate for these 700 MHz Commercial Services licenses.[47]

30. Incumbent Eligibility. The proposals to prevent incumbents from being eligible to participate in the 700 MHz auctions can benefit small entities to the extent that they find less competition at auction from large entities such as established incumbent licensees, including wireline providers. Additionally, the proposal to provide bidding credits with regard to the Upper 700 MHz C Block for parties unaffiliated with incumbent wireline broadband service providers could encourage new entry by small entities.

31. Anonymous Bidding. Smaller auction participants can benefit from having access to information about larger entities' bids during the auction, and smaller auction participants may encounter difficulties with financing if the Commission withholds the information during the auction. However, the potential to use new 700 MHz licenses to create alternatives to existing broadband networks increases the benefits from anonymous bidding by making it harder for existing providers to identify and impede the efforts of potential new entrants to win. Accordingly, in seeking comment on whether to require anonymous bidding for 700 MHz auctions, the Commission balances the difficulties it may cause to smaller auction participants, against the opportunities for new entrants—including small entities—that may result from anonymous bidding.

32. 700 MHz Band Plan Proposals. The *Further Notice* includes several proposals to reconfigure the 700 MHz Band plan. Under any revised band plan, the Commission seeks comment on whether the spectrum block adjacent to the Public Safety Band's lower half would, pursuant to another tentative conclusion, be responsible for funding the reconfiguration of the public safety spectrum with the narrowband channels at the upper end and a broadband allocation at the lower end. This proposal would, if adopted, impose additional economic burdens on any small business that procured the spectrum block adjacent to the Public Safety Band's proposed broadband allocation.

33. The *Further Notice* also proposes to license the 700 MHz Band using a mix of small, medium and large geographic areas. These proposed service area definitions should benefit small businesses, because they would enhance the mix of licenses to be made available in the 700 MHz Band,

(Continued from previous page)
in WT Docket 06-150 at 5-8. The Navajo Nation, RCA, and the Vermont Department of Public Service, *et al.* favorably discuss both benchmarks and a "keep-what-you-use" approach

[46] *See* AT&T Comments in WT Docket 06-150 at 12-13; CTIA Comments in WT Docket 06-150 at 10; Dobson Comments in WT Docket 06-150 at 5; Leap Comments in WT Docket 06-150 at 10.

[47] *See, e.g.,* Aloha Comments in WT Docket 06-150 at 2; Blooston Comments in WT Docket 06-150 at 3; Dobson Comments in WT Docket 06-150 at 3; Frontier Comments in WT Docket 06-150 at 4; NTCA Comments in WT Docket 06-150 at 3-5; RCA Comments in WT Docket 06-150 at 3-4; RTG Comments in WT Docket 06-150 at 4-5.

and are consistent with the goals of providing greater access to spectrum for small providers and parties in rural areas, and improving the opportunity for a wider range of potential licensees to access this spectrum.

34. Public Safety Broadband. The *Further Notice* tentatively concludes to reallocate the wideband spectrum to broadband use that would be consistent with a nationwide interoperability standard, and prohibit wideband operations on a going forward basis. The public safety community expressed broad support for a broadband allocation to enable advanced communications capabilities. The availability of a contiguous block of broadband spectrum, subject to a nationwide interoperability standard, would enable partnerships with commercial licensees in adjacent broadband spectrum. As a result, the proposed band plan would ultimately enable public safety entities to utilize the 700 MHz spectrum in a more cost-effective and spectrally efficient manner to address their homeland security and emergency response roles. Because the Commission does not anticipate that the proposal will impose additional economic burdens on public safety, and is in fact designed to reduce economic burdens on public safety, the Commission has taken steps to minimize any adverse impact of the rule changes.

35. The *Further Notice* also seeks comment on its tentative conclusion to consolidate the narrowband spectrum to the top of the public safety band and locate the broadband spectrum at the bottom of the public safety band, in light of the potentially significant benefits such reconfiguration would afford the public safety community. The alternative would be to retain the existing band plan. The *Further Notice* seeks comment on how to implement reconfiguration of the narrowband channels with minimum disruption to incumbent operations. The *Further Notice* invites comment on an appropriate transition mechanism, including how to accommodate public safety operations in the border areas with Canada and Mexico, and the costs of relocation and how such costs will be covered. The Commission expects that the number of entities impacted and expected cost of reconfiguration should be relatively minor. To assist the Commission in its analysis, however, commenters are requested to provide information regarding the number of narrowband radios that are deployed, as well as the number of radios that are in active use, and thus would be affected by the proposed changes to the 700 MHz public safety band plan as described in the *Further Notice*. The *Further Notice* recognizes that the public safety community's ability to fund the reconfiguration may be limited. Thus, in addition to considering whether public safety should pay for its own relocation costs, the *Further Notice* seeks comment on several alternatives, including whether to impose funding requirements on 700 MHz commercial licensees, and whether Federal or other grant monies could be used. In the event the Commission determines to license the broadband allocation to a nationwide public safety broadband licensee, the *Further Notice* also invites comment on whether that licensee should be assigned responsibility for funding the reconfiguration.

36. Although the economic burden on public safety to effectuate reconfiguration is expected to be relatively small, the *Further Notice* will develop a record on the true costs that would be implicated. The Commission remains open to considering alternatives, however, should an alternative be stated in comments that would reach our objectives and minimize the impact on public safety entities.

37. Frontline Proposal. In the *Further Notice*, the Commission seeks comment on Frontline's proposed "Public Safety Broadband Deployment Plan." Although Frontline proposes that the Commission offer bidding credits to applicants based on their status as a small business, the Commission tentatively concludes in the *Further Notice* that it should not offer any bidding preferences, such as bidding credits, to applicants for the "E Block" license. The *Further Notice* states, however, that the public interest would not appear to favor giving applicants a preference when bidding for the "E Block" license based on their limited financial resources, as the Commission does when it offers bidding credits to small businesses in these circumstances. The Commission stated that its concerns regarding the capital needed to implement a nationwide service are especially acute in this instance, because the "E Block" licensee would be responsible for constructing a network to meet the needs of critical public safety providers. The Commission seeks comment on this tentative conclusion.

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

38. None.

STATEMENT OF
CHAIRMAN KEVIN J. MARTIN

Re: *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands (WT Docket No. 06-150); Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems (CC Docket No. 94-102); Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones (WT Docket No. 01-309); Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services (WT Docket No. 03-264); Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules (WT Docket No. 06-169); Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band (PS Docket No. 06-229); Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010 (WT Docket No. 96-86); Report and Order and Further Notice of Proposed Rule Making.*

Since I became chairman, promoting broadband deployment and increasing penetration has been one of my highest priorities. I am pleased that since then, we have made significant progress. For instance, an independent study by Pew Internet and American Life Project recently confirmed our own findings about the growth of broadband. Pew found that from March 2005 to March 2006, overall broadband adoption increased by 40%—twice the growth rate of the year before. Critically, this significant increase in broadband adoption was widespread and cut across all demographics. Equally important, Pew found that the average price consumers pay for broadband has also dropped in the past two years.

However, there is no question that much work still needs to be done.

One important factor spurring both increased broadband availability and reduced prices is competition among broadband platforms.

In much of the country, however, consumers have a choice of only two broadband services: cable or DSL. And in some parts of the country, consumers don't even have that choice. The most important step we can take to provide affordable broadband to all Americans is to facilitate the deployment of a third "pipe" into the home. We need a real third broadband competitor. And we need a technology that is cost-effective to deploy not just in the big cities, but in the rural areas, as well. All Americans should enjoy the benefits of broadband competition – availability, high speeds, and low prices.

The upcoming auction presents the single most important opportunity for us to achieve this goal. Depending on how we structure the upcoming auction, we will either enable the emergence of a third broadband pipe – one that would be available to rural as well as urban American – or we will miss our biggest opportunity. Such a status quo outcome certainly would not sit well with consumer groups that have been strongly urging us to adopt rules that facilitate the ability of a "third pipe" to develop.

The leading technology companies – Google, Intel, Skype, Yahoo, along with DirecTV, and EchoStar are the only parties that have promised to try to provide a national, wireless broadband alternative. They have explained that, for a national wireless broadband service to emerge, the auction must do three things: (1) make available at least one 11 MHz paired block; (2) offer at least some large geographic areas; and (3) enable package bidding so that rights to a national service could be acquired. These technology companies have formed a coalition urging the Commission to follow these key principles that they believe are essential to the deployment of an additional broadband competitor.

I put forth a proposal that would meet these three requirements. I am surprised that some of my colleagues do not support this approach. Indeed, some of them have been the most critical of the current state of broadband deployment and competition and the most vocal about us needing a national strategy. It is puzzling that they would not endorse taking the minimum steps necessary to enable a wireless broadband alternative to develop for all Americans.

Importantly, the proposal I put forth would provide for a variety of geographic license areas spectrum block sizes. The mix of geographic license sizes coupled with a proposal for specific geographic build-out requirements – the strictest build-out the Commission has ever proposed – would help ensure that the rural and underserved areas of the country will benefit from the provision new services that this spectrum will facilitate. We also would permit higher power limits in rural areas, which will reduce the number of towers necessary to serve consumers and lower the cost of build-out. This proposal would provide significant opportunities for small and rural carriers as well as new entrants to the broadband market to obtain spectrum at auction.

Like broadband, meeting the needs of public safety has been a major focus of mine since becoming Chairman. We all know the tragedies that can occur when public safety officials cannot adequately communicate. The public safety community needs more spectrum, and they need to be able to build a truly national, interoperable broadband network. This item takes an important step to achieving those goals.

We tentatively conclude that public safety wideband spectrum allocation should be consolidated and revised to provide broadband only on a going-forward basis. In addition, many national and local public safety organizations have expressed support for a public-private partnership approach for a single, national licensee to achieve an interoperable public safety broadband network in the context of other public safety proposals. In the *Further Notice*, we seek comment on the proposal by Frontline Wireless, which would establish a new commercial licensee that would have specific obligations to build out a common broadband infrastructure for public safety and commercial use, working in concert with a national public safety licensee. We also ask if there are other opportunities for public-private partnerships that will help bring our first responders the benefits of broadband.

Although we are seeking further comment on issues, I remain highly aware of the need to move swiftly to provide sufficient time for all parties to prepare for the auction. It is paramount that this auction not be delayed. I look forward to a focused public dialogue on these issues in the coming weeks, and look forward working with my fellow commissioners to come quickly to resolution on these issues.

STATEMENT OF
COMMISSIONER MICHAEL J. COPPS

Re: Service Rules for the 698-746, 747-762 and 777-792 Bands; Implementing a Nationwide, Broadband Interoperable Public Safety Network in the 700 MHz Band; Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules, Report and Order and FNPRM

The upcoming 700 MHz auction is perhaps the most important this Commission will ever conduct. When it comes to spectrum, to paraphrase Mark Twain, "they aren't making any more." And the soon-to-be freed-up 700 MHz variety is among the most valuable spectrum of all because of its uniquely favorable propagation characteristics.

So the stakes here are high—very high. If we do our jobs correctly, this auction will deliver countless benefits to the American people as well as billions of dollars to the U.S. Treasury. It will enhance our readiness for the next disaster and inject some much-needed competition into the market for broadband services across the nation (especially in rural areas). But if the Commission fails at its task, then we will have wasted one of the best opportunities in recent memory to improve the way our nation communicates, develops and protects itself. We will never have another chance like this one.

Let's begin with the question of public safety which is, as you have often heard me say, the first obligation of the public servant. In a more perfect world, our nation's first responders would already have access to a cutting-edge, custom-built, interoperable and fully-funded broadband network that makes use of dedicated public safety spectrum. After all, it has been over half a decade since 9/11 and we are coming up on the two-year anniversary of Hurricane Katrina. Both tragedies were greatly—and unnecessarily—compounded by flaws in our public safety communications system. And yet we are not appreciably closer to a solution today than we were back then. This is a failure—a truly monumental national failure—that I believe will come to haunt us in the years ahead.

It is against this background of missed opportunities and an unacceptable status quo that we must consider a recent, late-filed proposal to create a nationwide, interoperable, public-private broadband network in the 700 MHz band. The basic idea is a network that will be used by both commercial *and* public safety users, with commercial users generating enough revenue to build and operate the network and with public safety users able to preempt commercial users (either in whole or in part) during an emergency. It's a tantalizing prospect—but ***only*** if it works as promised. And there's the challenge.

So let me be crystal clear right up-front: I am not at all sure that a dual-use network along the lines proposed here will actually deliver public safety users the network they so desperately need and deserve. While I certainly support putting this proposal out for comment, even at this late date, I am going to approach it with a skeptical eye. Put simply, I will need strong assurances—much stronger than any we have been provided thus far—that the plan will ***actually work*** before I can support it. And by work, I mean ***work for public safety***. I'm talking about an interoperable network—***built and configured to public safety standards***— that police officers, firefighters, EMS technicians and other first responders all across the nation can actually afford to use. And I mean a system that is managed and maintained with a clear public safety priority, with the hard preemption and other calls made by those entrusted with ensuring the public safety. Let's focus on these issues in some detail.

To begin with, a public safety network is a fundamentally different beast than a commercial network. It requires greater reliability and interoperability, as well as a substantially different architecture, than traditional cellular networks. We've all felt the frustration and annoyance that comes when our cell phone drops a call. But for a first responder or a person in distress, a dropped communication can quite literally be the difference between life and death. Ninety-five or ninety-six

percent reliability just isn't going to cut it here, nor are weather- or disaster-related outages. We should be demanding the wireline system's famous "five nines"—99.999%—or better. To take a second example, we also all know how complicated it can be to organize a conference call with a handful of colleagues. But first responders need instantaneous communication with extensive talk groups at the scene of a major disaster—groups that can contain several hundred officers from dozens of different jurisdictions and services. I am unaware of any commercial network that is designed to provide such a feature. And public safety users need to be able to communicate directly from handset to handset, even if a central cell tower has been knocked down. Again, this is not a feature that commercial operators typically provide.

A public safety network also needs to be ubiquitous, or as close to ubiquitous as is practically feasible. First responders don't lose the need to communicate just because they are on a distant farm, an underground urban parking garage, or some other remote location; if anything, the need is even greater. Commercial build-out schedules are simply not appropriate here. So in any plan that is adopted I will be looking for strong assurances for an accelerated build-out schedule.

Here is another imperative that we might as well face up to right here. No plan is going to work without the close, ongoing oversight and enforcement authority of this Commission. The commitments made here are commitments that have to be met. This isn't about voluntary best efforts that may or may not culminate in real-world results at some future date—this is about getting an essential job done right and done on time. Achieving just the right balance in the management and oversight of this dual-use system and making sure it is flexible enough to jump from one purpose to another instantaneously will require unprecedented and historical coordination and cooperation. Just hoping that effective decision-making will fall into place between commercial and public safety partners who have different strengths, different histories and different levels of influence does not provide the kind of guarantees needed here.

And then, of course, there is the issue of money. The proposal we are considering here would give public safety users a binding legal right to access spectrum on a preemptible basis—but for a price. This brings to mind Anatole France's bitter observation about how the law in its majesty forbids both rich and poor from sleeping under bridges. The fundamental question here is whether public safety users will be able to ***afford*** to exercise their right to access the network. The network we're talking about cannot be just a luxury item available to a few first responders whose budgets allow them to use costly services—it needs to be something that public safety users, all across the nation, can afford to use on a regular basis and to rely upon as one of their basic forms of communication. Cash registers and toll booths don't belong at the heart of our nation's public safety planning. I approach these questions with special skepticism because I've seen too many companies, many with genuinely good intentions, promise to abide by a slew of special public interest conditions when they are seeking a license. But then, a few years down the road—and after a change in management or sometimes just a change in attitude—they suddenly develop an overpowering interest in reducing costs and increasing profits beyond the level that their original commitments would allow. When this seemingly inevitable shift occurs, the commercial operator will face strong pressure to cut back on the costly features that public safety demands and to start charging higher prices that commercial users but not public safety users can swallow. For this reason, I think that the FCC must—at a minimum—maintain strong and ongoing oversight of any for-profit corporation that is charged with maintaining a public safety network.

I also have concerns about whether preempting commercial users in favor of public safety users during times of emergency could have unintended and possibly dangerous consequences. For example, consider the tragic possibility of someone trapped under a building who cannot call for help because his or her cell phone relies on spectrum that has been preempted for exclusive use by first responders. Or consider how preemption might impact the ability of commercial end users to contact colleagues and loved ones in the aftermath of a crisis. I recognize, of course, that communications bandwidth will inevitably become a scarce and precious resource during an emergency and that first responders have a

unique claim to priority in such situations. But at the same time, we need to think about whether it may be feasible to give some degree of priority to certain commercial communications—such as calls to 911—as well as about the wisdom of adopting a plan that could give commercial end-users a false sense of security about technologies that will become unavailable at exactly the times they are most needed.

I am pleased that today's FNPRM seeks comment on some of the issues I have just discussed, as well as others such as the potential inclusion of satellite technologies in any viable public safety proposal; how best to manage cross-border interference issues; and whether the Commission should adopt anonymous bidding procedures. I also am pleased that we ask general questions about how the "open-access" proposals made by some might encourage the development of a sorely-needed wireless "third pipe" in the broadband market. And though today's item does not seek specific comment on every conceivable aspect of the proposal, I would welcome and encourage interested parties to offer their thoughts on whatever other considerations they deem relevant, including the possible unintended consequences of allowing public safety users to preempt commercial users; on what lessons the Commission should draw from the experiences of other countries (like the United Kingdom) that have considered or adopted public-private spectrum sharing initiatives; and on what level of detail and specificity the Network Sharing Agreement should go into about network design and cost/revenue sharing between the commercial licensee and public safety users.

It took a while and it took some doing, but I think this notice now proceeds in a good and measured way regarding band plans. We make no conclusions here, final or tentative, but instead tee up a number of options. I wish we had a Commission-wide consensus plan right now, but we don't. The options presented in the item provide, however, reasonable parameters for final Commission decision-making. I have put forward ideas to achieve a fair and balanced approach. As I have noted several times, I think that the Commission should offer a wide variety of geographic license sizes—just as we did in last year's AWS auction. This is the appropriate way to balance the competitive goals of the auction. Small and medium license sizes play a critical role in encouraging participation among smaller and rural wireless companies. At the same time, larger license sizes can permit new entrants—such as high tech entrepreneurs and satellite providers—to offer broadband on a nationwide basis. One size doesn't fit all, and I am convinced that we can put together a final plan making room for a multiplicity of interests.

Certain it is that we desperately need a third broadband pipe to challenge the current telco-cable duopoly in our metropolitan areas, as well a ***first*** broadband pipe in many rural areas. It is this duopoly and lack of rural availability that have caused the United States to continue its slide in the world when it comes to broadband—witness the OECD ranking that came out just the other day taking the United States from 12th to 15th among the nations. And as I have noted before, I don't think any of us should be relying on wireless companies owned by wireline broadband providers to provide this much-needed competition. So coming up with a good, progressive auction strategy is a good step forward—maybe one that can actually produce a new entrant into the broadband market—but don't mistake what we are talking about today for anything like the sort of comprehensive broadband strategy that our country so desperately needs. I guess that will await another day.

Finally, I am pleased with our proposal that the 700 MHz licenses be subject to strong performance requirements for network build-out. A license to use the people's airwaves is a public trust—and we must not countenance spectrum warehousing or any other unreasonable delay in putting this spectrum to work. However, even as we seek to provide licensees with a firm incentive to make use of spectrum, we also need to make sure that we do not unfairly punish licensees—especially in rural areas—who cannot engage in aggressive build-out for perfectly good economic reasons. I look forward to reading comments from the parties on this important issue.

I want to thank all my colleagues for their hard work on this item; various stakeholders who have already contributed input into our deliberations; and the Bureau for working late into the night on several

occasions to start us down the road on one of the greatest challenges we've ever confronted. I also thank the Bureau in advance for what I know will be its hard work to develop final service rules for this granddaddy of all auctions, hopefully by June of this year.

STATEMENT OF
COMMISSIONER JONATHAN S. ADELSTEIN

Re: Service Rules for the 698-746, 747-762 and 777-792 MHz Bands; WT Docket No. 06-150 et al; Report and Order and Further Notice of Proposed Rulemaking

Today, we take another step towards one of the most significant FCC actions in this decade. Our 700 MHz auction will be a critical opportunity for new and existing providers to bring the latest technologies and services to the American people. There rightly is a great deal of pressure on the Commission to construct a band plan and service rules that will meet a wide-range of interests. We hear from an ever-increasing chorus of voices expressing concern about the lack of competition in the broadband marketplace and the need to promote advanced services in rural and other underserved areas. So our decisions today and in the near future will have a profound impact on the future role of wireless broadband services and on the ability of wireless providers to provide important competition to existing providers of these critical services.

The item before us is much improved, and because of these changes I can enthusiastically support it. I appreciate the willingness of my colleagues to accept several of my edits to create a more balanced discussion of a proposed band plan and to ask more meaningful questions about ways in which the band plan should or not be changed. I also support the meaningful performance requirements proposed in the item and am pleased with Chairman Martin's suggestion to propose to apply these requirements on a geographic basis. Finally, I support our inquiry into whether or not we should condition a "Block E" license on the licensee constructing a public safety broadband network and providing wholesale commercial services. I am pleased that we were able to add a number of important questions about the oversight of such a potential licensee.

The item is also greatly improved with the addition of a number of the questions raised by the *Ad Hoc* Public Interest Spectrum Coalition about alternative open access proposals in the 700 MHz band and on possible steps the Commission could take to encourage the entry of new wireless competitors. We need to maximize the possibility that new competition emerges from this spectrum opportunity. Some talk about a "third pipe" into the home to challenge the cozy duopoly between the cable and telephone companies that now dominate the broadband marketplace. I like to think we need to encourage the creation of a "third channel" into the home, since wireless technologies are most likely to provide the competitive alternative. The questions we ask today about open access networks are critical to informing this debate.

Band Plan

The Commission has a unique role in establishing the market for spectrum. Auctions are a free-market mechanism, but it is the government's role to establish the ground rules through a band plan. We have a special responsibility to establish band plans that allow for a diversity of license sizes. We want to maximize the level of utilization by giving more options so that the market can perform most efficiently. We also want to preclude companies from being forced to bid on licenses that are larger than the areas they intend to serve. Large carriers can always aggregate smaller licenses, but companies of all sizes cannot make license areas any smaller during the auction process than what the Commission allows.

As we begin to finalize our rules for the 700 MHz auction, it is critical we build on the lessons learned from our previous auctions to provide a diverse group of licenses so that all bidders have an opportunity to obtain licenses that best match their business plan. While I have supported rules to facilitate the secondary market for spectrum rights and licenses, I think we are best served by providing a wide variety of license sizes at the initial auction when appropriate.

Turning to the specific item before us, I would have been concerned if the Commission had proposed a band plan that ignored the overwhelming record that advocated for a more balanced set of license areas – a band plan that would accommodate large and small interests, tribal governments, rural providers, and possible new entrants. We simply would not have been well served by a band plan that positions all but one of the remaining blocks to be auctioned on a large, regional basis. So I am very pleased with our proposal to auction off the paired A block in the lower 700 MHz band on EA basis.

While I am troubled by the item's treatment of the Broadband Optimization Plan, I am pleased that we have added a request for comment on the latest proposal by Access Spectrum and Pegasus to reconfigure the guard band and public safety 700 MHz spectrum allocations. Access Spectrum and Pegasus are to be commended for their ongoing efforts in pushing proposals that will facilitate more efficient use of the upper 700 MHz band while at the same time addressing critical communications needs of public safety. Their recent proposal deserves serious consideration as it (1) clearly addresses the Canadian border issue for public safety; (2) eliminates the need for undefined temporary easements in the commercial band adjacent to public safety; and (3) ensures funding from Access Spectrum and Pegasus for the conversion of existing 700 MHz narrowband public safety systems and the necessary changes to the Computer Assisted Pre-Coordination Resource and Database System. These are important public interest objectives, and are particularly critical to the consolidation of public safety's narrowband spectrum.

Finally, I am pleased that we are seeking comment on a variety of proposals to modify the structure of the upper 700 MHz band. We have heard from a number of diverse parties on this matter, and I believe it is important that we continue to keep critical band plan issues on the table given that we are putting other proposals out for comment. This discussion will well inform and advance our consideration of these challenging issues.

Some have argued that a more flexible upper 700 MHz band plan that includes a mix of licenses could better support a variety of business plans and ensures that the spectrum is made available to the bidders that value it most. There is a concern that a band plan with only REAGs in the upper 700 MHz band may artificially favor only the largest wireless incumbents or particular business models. On the other hand, a paired 22 MHz block available on a REAG basis could address the needs of potential new entrants, some of whom argue that they need the ability to create a large swath of spectrum to compete with a wireless broadband product on a national basis. And other groups have noted that this 700 MHz spectrum is a unique opportunity to create a new competitor to our highly-concentrated broadband market, and have argued that a band plan that allows for larger blocks will facilitate entry by new providers.

So I am pleased that we have band plans in the item representing all of these different views. I did not believe it was necessary to potentially foreclose the band plan debate today by tipping our hand in one direction or the other, at the same time we are seeking further comment on so many issues related to the 700 MHz auction.

Performance requirements

I have long talked about my interests in promoting spectrum use. Our job at the FCC is to do whatever we can to promote spectrum-based opportunities like the significant prospects for advanced wireless communications services in the 700 MHz band. To get there, I am continually evaluating the FCC's service and construction rules to ensure that our policies do not undercut the ability of wireless innovators to get access to new or unused spectrum. I have advocated a carrot and stick approach. We want to promote flexibility and innovation, but since the spectrum is a finite public resource, we want to see results as well.

In this regard, I am pleased to support the Chairman's proposal to base performance requirements in the 700 MHz band on a geographic basis. This is a meaningful requirement that shows the Commission's resolve in ensuring that this valuable public resource is put to use for the benefit of all Americans, no matter where they live. By proposing a geographic coverage requirement, we are looking to ensure that 700 MHz will not become an untapped well for the thirsty and instead will be deployed to all corners of the country. Given the favorable propagation characteristics of this spectrum, a rigorous performance requirement well serves the public interest.

E Block Public-Private Public Safety Network

This country has a dilemma. Policymakers all agree that our first responders need the best technology and communications networks possible. Yet, we continue to have a situation in which many of our nation's public safety agencies struggle to keep pace with today's rapidly evolving communications landscape. And interoperability remains an elusive goal for too many first responders. Our nation needs a national interoperable public safety broadband network.

So I very much appreciate the leadership of Frontline in developing a creative proposal that may allow this country to move forward with a national public safety communications network. And I would be remiss in not recognizing the early work of Cyren Call in planting the seeds of a commercially-supported public safety broadband network.

The Frontline proposal offers many intriguing positions. First and foremost, the Commission would require the E Block licensee to construct and operate a nationwide, interoperable broadband network for sharing with a national public safety licensee. This public-private network would use commercial spectrum in the upper 700 MHz band as well as 12 megahertz of the public safety spectrum block. Second, the E Block licensee would be required to operate as a facilities-based wholesale provider with respect to commercial use of the spectrum. And finally, the E Block licensee would be required to provide open access to its network, allow the attachment of any device to its network, and permit users to access the content and services of their choice. Frontline's proposal rightly addresses many of the concerns that have been recently raised with our existing wireless communications marketplace.

So I applaud Frontline for their initiative; but a number of questions still remain if we decide to go forward with such a unique proposal. Primarily, how does the Commission ensure that the E Block licensee truly meets the needs of public safety in deploying and operating the national broadband network? What can the Commission legally impose on the E Block licensee to make sure that it meets not just its own commercial objectives, but the Government's objectives as well? If we go forward with a facilities-based wholesale network, what rules can we adopt to ensure that the E Block licensee does not simply turn around and wholesale services back to itself or its commonly controlled affiliates? I am pleased that we were able to add a number of additional questions to the item about the oversight of the E Block licensee should the Frontline proposal be adopted in one form and another.

Conclusion

Finally, as we consider a schedule for the upcoming 700 MHz auction, we must remember that our rules have not yet been finalized. We must be mindful that some companies may not currently be in a position to move forward with plans to participate in the auction until the Commission makes a final decision about the band plan and specific performance requirements. They need sufficient time to establish business plans and line up financing. Consequently, we must make sure that our auction schedule allows for sufficient spacing between the adoption of final 700 MHz band rules and the filing of auction applications. This will ensure that the auction truly is available to a diverse group of interested parties, and that full participation will lead to a more successful and robust auction. I am confident that we can provide the necessary time for preparation and still comply with our statutory obligations related

to the auction.

I would like to thank the Wireless Telecommunications Bureau staff for their continued hard work in guiding us to the 700 MHz auction. With the digital transition on the horizon, our work comes at a crucial time, and we are making decisions that will impact the 700 MHz band and indeed the future of wireless services to come. Additional dialogue on these matters can only serve American consumers well. I look forward to working with my colleagues and the Bureau in tackling these important issues in the very near future.

STATEMENT OF
COMMISSIONER DEBORAH TAYLOR TATE

Re: Service Rules for the 698-746, 747-762 and 777-792 MHz Bands (WT Docket No. 06-150); Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems (CC Docket No. 94-102); Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones (WT Docket No. 01-309); Biennial Regulatory Review - Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services (WT Docket No. 03-264); Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules (WT Docket No. 06-169); Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band (PS Docket No. 06-229); Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010 (WT Docket No. 96-86).

Broadband deployment is vital to our nation. The availability of ubiquitous, reliable, high-speed broadband access already is changing the way Americans work and live, but we must act to ensure that the unprecedented business, educational, and healthcare opportunities that broadband makes possible are available to all Americans, regardless of where they chose to live. I'm not alone in this opinion. Every member of this Commission has voiced the need for ubiquitous, affordable broadband, and Members of Congress have clearly indicated their belief that the FCC must do more to get broadband services deployed to all Americans.

The adoption of today's item is a critical step towards achieving this shared goal. The inherent propagation characteristics of the 700 MHz band could make it less expensive to construct new networks covering larger geographic areas, making it ideal for expanding the availability of broadband in rural areas. At the same time, the band potentially provides better in-building coverage than higher frequencies, which not only would facilitate the provision of advanced services in urban areas but also could help improve 911 access and location system performance. The rules we adopt today, along with the detailed questions set forth in the Further Notice, bring us one step closer to putting this critical spectrum into the hands of those who can best put it to work.

In conducting the upcoming 700 MHz auction, we must be particularly mindful of the following Congressional directives: (1) encouraging small businesses, rural telephone companies, and businesses owned by members of minority groups and women to participate in the auction; and (2) commencing the auction no later than January 28, 2008, with the proceeds of the auction to be deposited into the Digital Television Transition and Public Safety Fund no later than June 30, 2008. These directives are not mutually exclusive.

In the highly successful AWS auction, the Commission increased the amount of spectrum licensed in smaller geographic areas – 20 megahertz to be exact – to afford greater opportunities for smaller, rural or regional providers to obtain access to that spectrum at auction. Forty eight rural telephone companies were winning bidders in the AWS auction – a clear indicator of success. I am very interested in hearing comments on how the proposed band plan would help to ensure a repeat of that success.

The sooner the auction begins, the closer we will be to reaping the benefits of services provided via this prime spectrum. I look forward to working with my colleagues to move this forward expeditiously.

STATEMENT OF
COMMISSIONER ROBERT M. McDOWELL

RE: Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27 and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services, WT Docket No. 03-264, Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules, WT Docket No. 06-169, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96-86, *Report and Order and Further Notice of Proposed Rulemaking*, FCC 07-72

Opening up the Lower and Upper 700 MHz Band for auction is America's best opportunity for spurring more competition in the broadband market. More than likely, we will not have another chance like this for years. That's why it is so important that we get it right. But we also need to act quickly. That's not just a good idea, it's the law. Congress has mandated that we start the auction no later than January 28, 2008, and deposit the auction proceeds by June 30, 2008. So, we appear to have some tension between getting it done right and meeting our statutory deadlines. That said, I am optimistic that we can produce high-quality service and auction rules on time. However, I am not without some anxiety.

It is important to note that the Commission is not reaching any tentative conclusions with respect to the band plan today. We are inviting additional comment and debate on several ideas. And, I thank the Chairman for his patience and flexibility in this regard. I'd also like to make clear that I have not reached conclusions on certain of the proposals discussed in today's *Further Notice*. That's why I'm delighted we'll be building a more complete record upon which to make an informed decision.

In my view, to "get it right," the Commission must ensure that businesses of all sizes have a fair opportunity to bid on varied market sizes in both the Upper *and* Lower bands of the 700 MHz slice. The Lower and Upper portions offer their own attributes that are attractive to different entities for different reasons. Accordingly, both the Upper and Lower portions should be accessible at auction to all bona fide bidders regardless of size. Ideally, our rules should also provide bidders the flexibility to aggregate markets together to create either a nationwide market, or large, regional or other customized markets much like that occurred in the AWS auction, but even better. Providing such equal opportunities will help increase the chances of competition in the broadband market for the benefit of *all* Americans. The more players we have competing both between and within platforms, the better. Such competition will also spur untold economic growth.

Some may be concerned that allowing for smaller market sizes in the Upper portion of the band may preclude the ability of some entities to secure a nationwide license to provide a new, competitive broadband platform, or a "third pipe." I'd like to hear more about those concerns. In the AWS auction, we witnessed a successful effort that fashioned together EA markets to form a virtual nationwide license. I welcome a discussion regarding that may or may not work in the 700 MHz band. However, we must be careful to ensure that we do not overly-tailor our auction rules to fit a particular business plan because there are never any guarantees as to who will participate at auction, or for how long.

Should we be limited to three pipes? Why not four, five or more? Are only national companies capable of providing such alternative platforms? What about regional players or local providers? Small town entrepreneurs? I hope commenters will help provide answers to these important questions.

In a perfect world, we would be completing our work in the 700 MHz commercial services proceeding today, and interested parties and potential auction participants would have both the certainty and time necessary to give consideration to the significant matters surrounding participation in a spectrum auction. But we live in an imperfect world where issues to be resolved by rulemakings are complex. In this spirit, I support the Commission's effort to seek additional comment on the unresolved matters relating to our upcoming auction of spectrum in the 700 MHz band.

Once we reach the end of this process, I hope that I find that my concerns were misplaced. It goes without saying that I will do all I can to ensure that the Commission completes this proceeding in record time.

Finally, in addition to my thanks to the Chairman and my colleagues, I want to acknowledge the hard working and talented staff of the Wireless Telecommunications Bureau. We have a number of milestones ahead of us, and I thank you for your diligence despite the demanding schedule associated with this proceeding.