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

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AUG 14 2007
FCC Mail Room

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
	)	
Declaratory Ruling on Reporting Requirement under Commission's Part 1 Anti-Collusion Rule	)	WT Docket No. 07-166

SECOND REPORT AND ORDER

Adopted: July 31, 2007 **Released: August 10, 2007**

By the Commission: Chairman Martin issuing a statement; Commissioners Copps, Adelstein, and Tate approving in part, concurring in part, and issuing separate statements; Commissioner McDowell approving in part, dissenting in part, and issuing a statement.

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I. INTRODUCTION

1. In this Second Report and Order, we establish 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. It is being made available for wireless services, including public safety and commercial services, as a result of the digital television ("DTV") transition. In passing the Digital Television Transition and Public Safety Act of 2005 ("DTV Act"), Congress accelerated the DTV transition by providing a date certain, February 17, 2009, for the end of the transition.[1] In light of this significant change, the developments that have occurred over the past several years in the market for commercial wireless communications and the evolving needs of the public safety community for advanced broadband communications, the Commission began reexamining its rules governing the 700 MHz Band last year.

2. The Commission has been considering rules related to the use of this spectrum in three

[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.

ongoing proceedings: (1) the 700 MHz Commercial Services proceeding,[2] (2) the 700 MHz Guard Bands proceeding,[3] and (3) the 700 MHz Public Safety proceeding.[4] Recognizing the interrelationship of these proceedings, we recently combined these proceedings and in April 2007 issued a single Report and Order and Further Notice of Proposed Rulemaking (the "*700 MHz Report and Order*" and "*700 MHz Further Notice*," respectively) addressing all three.[5] In the *700 MHz Report and Order*, we revised certain service rules pertaining to commercial licenses in the 700 MHz Band, including those affecting the Guard Bands.[6] In the *700 MHz Further Notice*, we sought comment on various band plan proposals for licensing the commercial spectrum in the 700 MHz Band that has not yet been auctioned and for reconfiguring the size and location of the spectrum blocks associated with these licenses, including the 700 MHz Guard Bands. We also proposed to adopt stricter performance requirements for the commercial licenses that have not yet been auctioned. Regarding public safety, we tentatively concluded to redesignate the 700 MHz public safety wideband spectrum for broadband use consistent with a nationwide interoperability standard, to prohibit wideband operations on a going forward basis, and to consolidate the existing narrowband channels in the upper half of the public safety spectrum while designating the lower half for nationwide interoperable broadband communications. Finally, we sought comment on establishing a public/private partnership between a commercial licensee and a single public safety licensee with respect to developing a nationwide, shared interoperable broadband network for use

[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 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*).

[3] *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*).

[4] *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*).

[5] 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 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*, 22 FCC Rcd 8064 (2007) (*700 MHz Report and Order* and *700 MHz Further Notice*, respectively). Citations to Comments and Reply Comments filed in response to the *700 MHz Further Notice* are designated "[Name of Party] *700 MHz Further Notice* Comments (or Reply Comments) at [page number]." A list of commenters can be found in Appendix A. We cite to comments filed in response to the *700 MHz Commercial Services Notice*, the *700 MHz Guard Bands Notice*, and the *700 MHz Public Safety Ninth Notice* using a comparable format. A list of commenters in those proceedings can be found in Appendix A of the *700 MHz Further Notice*. *See 700 MHz Further Notice*, 22 FCC Rcd at 8173, App. A.

[6] *700 MHz Report and Order*, 22 FCC Rcd at 8121-28 ¶¶ 151-68.

by public safety users.[7] We address these proposals and related issues in this Second Report and Order.

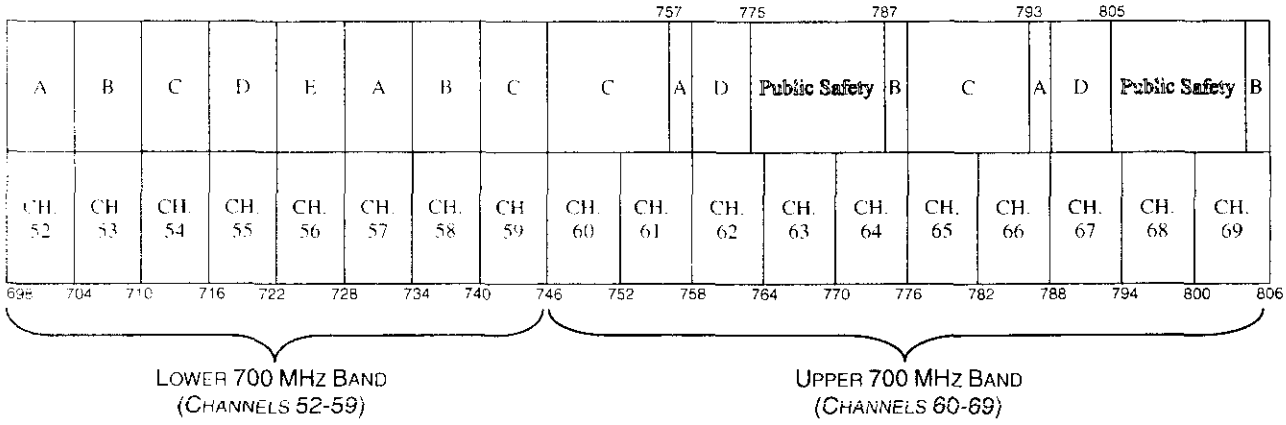
3. Consistent with our goals of promoting commercial access to 700 MHz Band spectrum and the development of a nationwide interoperable broadband network for public safety users, in this Second Report and Order we revise the band plan for both the commercial and the public safety spectrum and adopt related service rules. We designate a spectrum block in the upper portions of the commercial spectrum for a commercial licensee that will be part of a public/private partnership (the "700 MHz Public/Private Partnership") entered with a national public safety broadband licensee for the public safety broadband spectrum, in a reconfigured 700 MHz Public Safety Band, to promote the development of nationwide interoperable broadband services for public safety users. We also change the location of the existing 700 MHz Guard Band licenses, provide for a 1-megahertz shift of the other commercial spectrum blocks in the Upper 700 MHz Band and the 700 MHz Public Safety Band, and reduce the size of the Guard Band B Block to make 2 additional megahertz of commercial spectrum available for auction. As we observed in the *700 MHz Report and Order* and *700 MHz Further Notice*, these revisions to the band plan for the 700 MHz Band and the associated rules are appropriate in light of the significant changes in the statutory framework governing this spectrum, the continuing technological advances in the market for wireless services, and the rapidly increasing need of public safety users for broadband communications.[8]

4. The revised band plan for the commercial services in the 700 MHz Band, including sizes and locations of the geographic service areas and spectrum blocks, is illustrated below.

[7] *700 MHz Further Notice*, 22 FCC Rcd at 8160-68 ¶¶ 268-90.

[8] *See 700 MHz Report and Order*, 22 FCC Rcd at 8066-67 ¶¶ 2-4.

FIGURE 1: REVISED 700 MHZ BAND PLAN FOR COMMERCIAL SERVICES



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	EA	176
C	746-757, 776-787	22 MHz	2 x 11 MHz	REAG	12
D	758-763, 788-793	10 MHz	2 x 5 MHz	Nationwide	1**
A	757-758, 787-788	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.
**Block is associated with the 700 MHz Public/Private Partnership.
***Guard Bands blocks have been auctioned, but are being relocated.

5. This band plan provides a balanced mix of geographic service area licenses and spectrum block sizes for the 62 megahertz of commercial spectrum to be auctioned. We will auction two 12-megahertz spectrum blocks (comprised of paired 6-megahertz blocks), one licensed by Cellular Market Areas (CMAs) and one by Economic Areas (EAs); one 22-megahertz spectrum block (paired 11-megahertz blocks) by Regional Economic Area Groupings (REAGs); and one 6-megahertz unpaired spectrum block by EAs. We also will designate one 10-megahertz spectrum block (paired 5-megahertz blocks), the Upper 700 MHz Band D Block, to be licensed on a nationwide basis and used as part of the 700 MHz Public/Private Partnership entered between this commercial licensee and the licensee that will be assigned the public safety broadband spectrum (hereinafter, the Public Safety Broadband Licensee).

6. In addition to revising the band plan, we adopt new, more stringent performance requirements for the commercial licenses in the 700 MHz Band that will be auctioned. These rules will require licensees to meet both interim and end-of-term construction benchmarks. CMA and EA licensees are required to provide service sufficient to cover 35 percent of the geographic area of their licenses within four years, and 70 percent of this area within ten years (the license term), and REAG licensees must provide service sufficient to cover 40 percent of the population of their license areas within four years and 75 percent of the population within ten years. For licensees that fail to meet the applicable interim benchmark, the license term is reduced by two years, and the end-of-term benchmark must be met within eight years. At the end of the license term, licensees that fail to meet the end-of-term benchmark will be subject to a "keep what you use" rule, which will make unused spectrum available to other potential users.

7. In addition, we determine that for one commercial spectrum block in the 700 MHz Band,

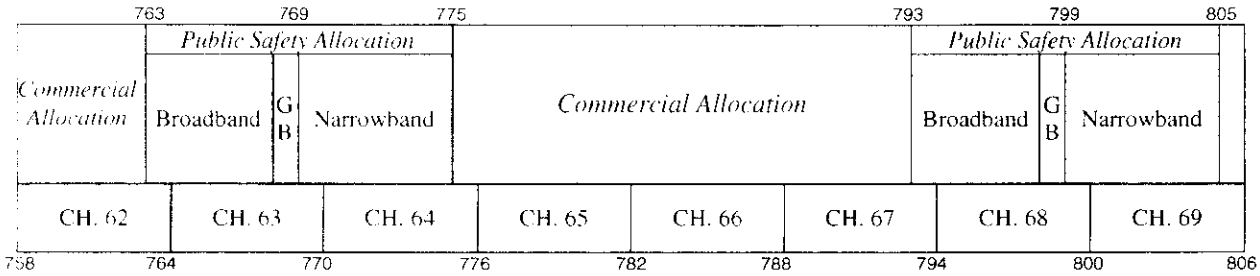
the Upper 700 MHz Band C Block, licensees will be required to allow customers, device manufacturers, third-party application developers, and others to use devices and applications of their choice, subject to certain conditions. We conclude, however, that at this time it would not serve the public interest to mandate broader requirements, such as a wholesale requirement for the unauctioned 700 MHz Band spectrum.

8. We also make certain determinations regarding procedures for the upcoming auction of licenses in the 700 MHz Band. Based on the record, we conclude that anonymous bidding procedures, which withhold from public release until after the auction closes any information that may indicate specific applicants' interests in the auction, including their license selections and bidding activity, will promote competition for 700 MHz licenses regardless of any pre-auction measurement of likely competition in the auction. We also clarify by declaratory ruling the continuing nature of the obligation to report communications that are prohibited by the Part 1 competitive bidding anti-collusion rule. In addition, we conclude that using package bidding solely with respect to the licenses in the Upper 700 MHz Band C Block (and not with respect to licenses in the other 700 MHz Band spectrum blocks) will assist bidders that are seeking to create a nationwide footprint without, at the same time, imposing disadvantages on parties that wish to bid on individual licenses comprising the nationwide footprint. In light of the innovative provisions we adopt with respect to the 700 MHz Band licenses, we find that block-specific aggregate reserve prices should be established for the upcoming auction of licenses for 700 MHz Band spectrum. If the block-specific aggregate reserve is met, all licenses in the block will be assigned based on the auction results. If it is not, we provide for a prompt auction of alternative, less restrictive licenses for the A, B, C, and E Blocks, subject to the same applicable reserves. Consistent with existing authority delegated to the Wireless Telecommunications Bureau (Wireless Bureau or WTB) to establish detailed final auction procedures, we delegate to the Wireless Bureau the discretion to propose and implement final auction procedures to implement these conclusions.

9. We make several changes to the 700 MHz Guard Bands spectrum. With one exception, all existing Guard Bands licensees have agreed to voluntarily modify their authorizations to "repack" their licenses into a reconfigured Guard Band A Block. All license modifications are consensual, except the relocation of one Guard Band A Block license held by PTPMS II Communications, L.L.C., and the downward shifting by 1 megahertz of its two Guard Band B Block licenses. We will afford all Guard Band A Block licensees the same technical rules that apply to the adjacent commercial spectrum, including less restrictive out-of-band emissions limits and frequency coordination requirements, and the ability to deploy cellular architectures. Collectively, these license modifications will serve the public interest by enabling a downward shift of the Upper 700 MHz Band public safety spectrum, which will address concerns of interference to critical public safety communications in border areas, and facilitate the deployment of a nationwide broadband public safety network. With the exception of PTPMS II's B Block licenses, we also relocate and reduce the Guard Band B Block from 4 to 2 megahertz, which will provide an additional 2 megahertz of commercial spectrum for auction.

10. With respect to the public safety spectrum in the 700 MHz Band, we shift the 700 MHz Public Safety Band 1 megahertz (as discussed above) and reconfigure this band to provide for public safety broadband. Specifically, we redesignate the public safety wideband spectrum for broadband use and consolidate the existing narrowband channels to the upper half of the public safety spectrum while designating the lower half for nationwide interoperable broadband communications. The revised band plan is illustrated below.

FIGURE 2: REVISED 700 MHZ BAND PLAN FOR PUBLIC SAFETY SERVICES



11. The revised band plan for the 700 MHz Public Safety Band consists of a 10-megahertz block (comprised of paired 5-megahertz blocks) allocated for broadband communications at the bottom of the band (763-768/793-798 MHz), a 2-megahertz internal guard band block (comprised of paired 1-megahertz blocks) (768-769/798-799 MHz), and a 12-megahertz block (comprised of paired 6-megahertz blocks) allocated for narrowband communications at the top of the band (769-775/799-805 MHz).

12. We also revise the licensing scheme for public safety users within the band. To effectuate the consolidation of the narrowband channels to the top of the public safety band, we establish a timeframe for transitioning existing narrowband operations. Transition of these operations must be completed no later than the DTV transition date. We also require the Upper 700 MHz Band D Block licensee to pay the costs of reconfiguring the public safety spectrum. Concerning the broadband segment, we address certain technical criteria related to power levels and the establishment of a broadband standard with a nationwide level of interoperability. As noted above, we also create a single nationwide license for the public safety broadband spectrum and specify the criteria, selection process, and responsibilities of the Public Safety Broadband Licensee.

13. As the means for enabling the construction of a nationwide, interoperable broadband public safety network, we provide for the establishment of the 700 MHz Public/Private Partnership between the commercial D Block licensee and the Public Safety Broadband Licensee in the Upper 700 MHz Band. The terms of the 700 MHz Public/Private Partnership will be governed both by Commission rules and by the Network Sharing Agreement (NSA), which is to be negotiated by the winning bidder for the D Block license and the Public Safety Broadband Licensee. In our rules, we identify certain network specifications to be incorporated into the NSA, mandate certain terms, and set forth build-out requirements. In addition, we elaborate on key essential components of the 700 MHz Public/Private Partnership, including the preemptible, secondary access that the Upper 700 MHz Band D Block licensee has to the public safety broadband spectrum, and the priority access that the Public Safety Broadband Licensee has, on an emergency basis, to the commercial D Block broadband spectrum. We also provide several safeguards relating to the 700 MHz Public/Private Partnership, including rules governing the establishment, execution, and application of the NSA, to ensure timely completion of the NSA negotiations and account for disputes that may arise during the negotiations and following execution, as well as a framework to govern ongoing operations and account for the contingency of breaches of obligations under the NSA by either party. This framework involves the imposition of certain structural and other requirements on the D Block licensee and the network intended to protect public safety broadband service. Further, we provide means for public safety entities to (1) obtain an earlier build-out of broadband networks than provided for in the NSA, (2) build their own broadband networks in areas not included in the NSA, and (3) conduct wideband operations via a limited and conditioned waiver process.

II. BACKGROUND

14. As described above, we adopt this Second Report and Order in response to a number of factors, including statutory changes that will affect the 108 megahertz of spectrum in the 700 MHz Band

(Television Channels 52-69 in the 698-806 MHz band). In this background section, we first discuss the DTV transition, which will reclaim the 700 MHz Band for new uses, including commercial and public safety services. We then provide a brief description of three proceedings related to the 700 MHz Band, including the Commercial Services, Guard Bands, and Public Safety proceedings. Relevant decisions made in the *700 MHz Report and Order* also are described in this section. Finally, we discuss the outstanding issues from these proceedings that were not decided in the *700 MHz Report and Order* or were raised in the *700 MHz Further Notice*, which are addressed in this Second Report and Order.

A. DTV Transition and Reclamation of the 700 MHz Band

15. The DTV Act set a firm deadline of February 17, 2009 for the 700 MHz Band spectrum to be cleared of analog transmissions and made available for public safety and commercial services as part of the DTV transition. The DTV Act also established two specific statutory deadlines for the auction 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.[9] These statutory changes provide for the clearing of the Upper and Lower 700 MHz Bands and eliminate any uncertainty about availability of this spectrum for public safety, commercial, and other wireless services.

16. Prior to the DTV Act, the Commission reallocated the 700 MHz Band in separate proceedings, first for the 60 megahertz covering TV Channels 60-69 ("Upper 700 MHz Band")[10] and then for the 48 megahertz covering TV Channels 52-59 ("Lower 700 MHz Band").[11] In the Balanced Budget Act of 1997 ("Balanced Budget Act"),[12] Congress specifically directed that the allocation of the Upper 700 MHz Band include 24 megahertz of spectrum for public safety and 36 megahertz for commercial services. Accordingly, the Commission divided the Upper 700 MHz Band to include a 24-megahertz allocation for public safety use,[13] and a 36-megahertz allocation for commercial use, of which 6 megahertz comprised the Guard Bands spectrum.[14]

17. With regard to the Lower 700 MHz Band, Congress also directed that the Commission "reclaim and organize" spectrum beyond that in the Upper 700 MHz Band, "in a manner consistent with the objectives" of Section 309(j)(3) of the Act.[15] While Congress did not direct the amount of spectrum to

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

[10] *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*).

[11] *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*).

[12] *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.

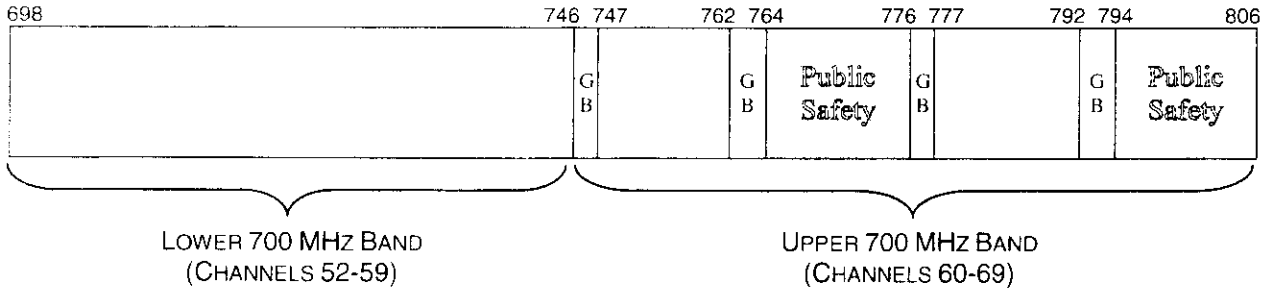
[13] *See 700 MHz Public Safety Ninth Notice*, 21 FCC Rcd at 14838-39 ¶¶ 5-6; *see generally 700 MHz Public Safety Eighth Notice*.

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

[15] 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 (continued....)

be reclaimed, 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.[16] The following Figure shows the location of Commercial Services, Guard Bands, and Public Safety spectrum within the Upper and Lower 700 MHz Bands.

FIGURE 3: THE 700 MHZ BAND (PRIOR TO REVISIONS)



B. 700 MHz Commercial Services Proceeding

18. The portion of the 700 MHz Band currently designated for commercial services is comprised of 78 megahertz of spectrum in the 698-746, 747-762, and 777-792 MHz bands ("700 MHz Commercial Services Band"),[17] and an additional 6 megahertz portion, in the 746-747/776-777 MHz and 762-764/792-794 MHz bands, designated as Guard Bands ("700 MHz Guard Bands") to protect users in the adjacent 700 MHz Public Safety spectrum. The remaining 24 megahertz of spectrum in the 700 MHz Band, in the paired 764-776 MHz and 794-806 MHz band, is allocated for public safety uses.

19. With regard to the Upper 700 MHz Band, the Commission initially determined that the Guard Band licenses in the A and B Blocks were to be assigned over the 52 Major Economic Areas (MEAs)[18] and the remaining licenses in the C and D Blocks were to be assigned over the six Economic Area Groupings (EAGs).[19] The following Figure shows the current band plan for the Upper 700 MHz Band. The Commission has auctioned the Guard Band A and B Blocks, while the commercial spectrum in the Upper 700 MHz Band C and D Blocks has not yet been auctioned.

(Continued from previous page)
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).

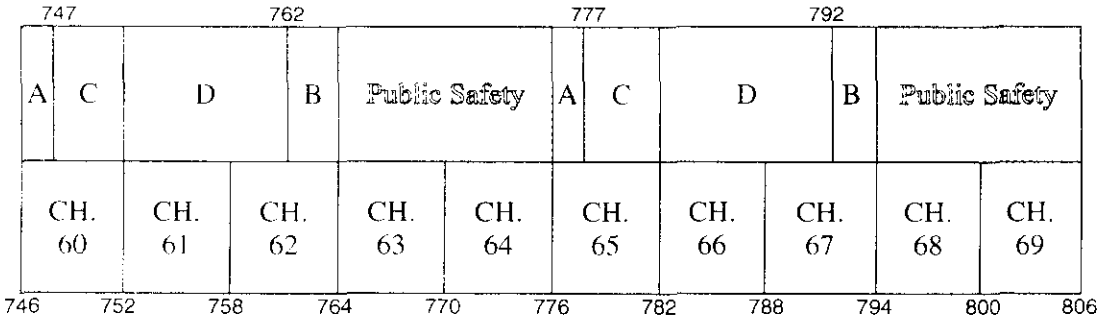
[16] *See* Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, MM Docket No. 87-268, *Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order*, 13 FCC Rcd 7418, 7435-36 ¶ 42 (1998) (*DTV MO&O of the Sixth Report and Order*). The Commission 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.

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

[18] 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, 5329-30 ¶¶ 69-71 (2000) (*Upper 700 MHz Second Report and Order*).

[19] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 500-502 ¶¶ 56-61.

FIGURE 4: UPPER 700 MHZ BAND (PRIOR TO REVISIONS)



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.

20. The Commission's original decision to use large geographic license areas based on EAGs for the C and D Blocks in the Upper 700 MHz Band was based on a number of factors.[20] These included the positions of commenters in the record, the likely uses of this spectrum, a previous statutory obligation to auction the spectrum and deposit the proceeds by a specific date,[21] and the Commission's desire to help bidders avoid costs associated with initial license area sizes that are too small.[22] In addition, 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.[23]

21. With regard to the Lower 700 MHz Band, the Commission divided the 48 megahertz of this spectrum into blocks of paired and unpaired spectrum to accommodate a range of new fixed, mobile, and broadcast services and technologies.[24] The following Figure shows the current band plan for the Lower 700 MHz Band. The C Block was to be assigned across CMAs (*i.e.*, Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs)), while the remaining blocks were to be assigned across EAGs. Although Congress specifically directed the Commission to delay the auction of 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.[25] The remaining A, B, and E Blocks have not been auctioned.

[20] *See id.* at 500 ¶ 56.

[21] *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.

[22] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 500 ¶¶ 56-57.

[23] *Id.* at 501 ¶ 59.

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

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

FIGURE 5: LOWER 700 MHZ BAND (PRIOR TO REVISIONS)

A	B	C	D	E	A	B	C
CH. 52	CH. 53	CH. 54	CH. 55	CH. 56	CH. 57	CH. 58	CH. 59

698 704 710 716 722 728 734 740 746

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.

22. In contrast to its approach for the Upper 700 MHz Band, the Commission initially decided to make the Lower 700 MHz Band available using both large and small geographic service areas. The Commission observed that many commenters in the Lower 700 MHz Band proceeding, especially small and rural providers, favored small geographic areas such as CMAs,[26] and it therefore decided to assign the 12-megahertz C Block over CMAs.[27] The Commission further observed that a 12-megahertz block was a significant amount of spectrum to assign across small geographic areas and concluded that this approach would afford meaningful opportunities to small and rural wireless providers.[28] While the Commission declined to adopt nationwide licenses,[29] 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.[30]

23. 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.[31] Among other issues, we sought comment on ways the Commission could promote access to spectrum and the provision of service by assigning the spectrum that had not yet been auctioned 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 performance standards for these licenses, and whether to modify any of the technical rules in these bands. In addition,

[26] *See Lower 700 MHz Report and Order*, 17 FCC Rcd at 1061 ¶¶ 95-96.

[27] *Id.* at 1059 ¶ 90.

[28] *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).

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

[30] *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.

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

we sought comment on several auctions-related issues and license renewal procedures. We also tentatively concluded that the Commission's 911/E911 rules and 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

24. When the Commission originally allocated the Upper 700 MHz Band,[32] 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.[33] Accordingly, the Commission created two paired Guard Bands, the 2-megahertz A Block at 746-747/776-777 MHz (consisting of paired 1-megahertz blocks) and a 4-megahertz B Block at 762-764/792-794 MHz (paired 2-megahertz blocks) to protect the public safety spectrum from interference resulting from commercial operations in the adjacent Upper 700 MHz Band C and D Blocks.[34]

25. 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."[35] To minimize the potential for harmful interference to public safety operations, the Commission precluded Guard Bands operations from employing cellular system architectures,[36] and required entities operating in the Guard Bands to comply with stringent out-of-band emissions criteria[37] and frequency coordination procedures.[38] 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,[39] 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.[40]

26. 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 licensees in the A Block and the B Block.[41] Two developments prompted the Commission to seek

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[32] *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); 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*).

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

[34] *Id.*

[35] *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.

[36] 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*).

[37] *Id.* at 5307-08 ¶ 17.

[38] *Id.* at 5308 ¶ 18.

[39] *Id.* at 5312-13 ¶ 27.

[40] *Id.* at 5313 ¶ 30.

[41] 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, (continued....)

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 Communications, Inc.'s (Nextel) Guard Bands licenses constituting 42 of the 52 B Block markets. Second, as noted above, Congress 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 for completion of the DTV transition.[42]

27. We sought comment on possible changes to the existing service rules for the 700 MHz Guard Bands that could result in more intensive use of the spectrum through greater operational, technical and regulatory flexibility for licensees. As discussed in the *700 MHz Guard Bands Notice*, currently there are few systems operating in the 700 MHz Guard Bands.[43] The Commission requires all Guard Band Managers, in lieu of any strict performance requirement, to file annual reports by March 1 of each year in their license term through January 1, 2015.[44] As of March 1, 2007, one of the seven Guard Band Managers reported a total of six spectrum user agreements (SUAs) for voice and data applications. According to the annual reports, spectrum use has been limited due to the continued presence of analog broadcasters in the band until the end of the DTV transition, uncertainty surrounding future plans for the Guard Bands spectrum reclaimed from Nextel, and limited availability of base station and end user equipment.[45]

28. In the *700 MHz Guard Bands Notice*, we also sought comment on proposals seeking to maximize use of the Upper 700 MHz Band spectrum, including changes not only to the existing 700 MHz Guard Bands service rules, but also with respect to spectrum allocated for public safety use. We invited comment on proposals to designate the reclaimed Nextel spectrum as narrowband channels dedicated to interoperability between critical infrastructure industries (CII) and public safety entities, or to leave the existing band plan intact but to reallocate the reclaimed Nextel spectrum exclusively for public safety use.[46] We also invited comment on proposals from existing Guard Band Managers to revise the Upper 700 MHz band plan, including the "Broadband Optimization Plan" ("BOP").[47]

29. In light of the time constraints inherent in the DTV transition, including the deadline to commence auctioning all recovered analog TV spectrum in the 700 MHz Band by January 28, 2008, together with the need to avoid disruption and delay of the planning, funding and deployment of public safety systems within the 700 MHz Public Safety Band, we tentatively concluded in the *700 MHz Guard Bands Notice* that it would not be appropriate to adopt any proposal, including the BOP, that entails a consolidation of the narrowband channels to the upper half of the public safety band unless two issues are resolved expeditiously: (1) public safety's recovery of the costs of consolidating narrowband public safety channels; and (2) international border coordination of public safety narrowband operations.[48] In

(Continued from previous page)
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*).

[42] *See* Deficit Reduction Act of 2005, Pub. L. No. 109-171, 120 Stat. 4 (2006) ("DTV Act").

[43] *700 MHz Guard Bands Notice*, 21 FCC Rcd at 10419 ¶ 13.

[44] *Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5332-33 ¶¶ 75-80.

[45] *See* Band Manager Reports *found at* http://wireless.fcc.gov/services/index.htm?job=guardband_reports&id=700_guard.

[46] *700 MHz Guard Bands Notice*, 21 FCC Rcd at 10429-30 ¶¶ 37-39.

[47] *See 700 MHz Further Notice*, 22 FCC Rcd at 8144-52 ¶¶ 222-242 (detailed discussion of the BOP and other proposals for the Guard Bands spectrum).

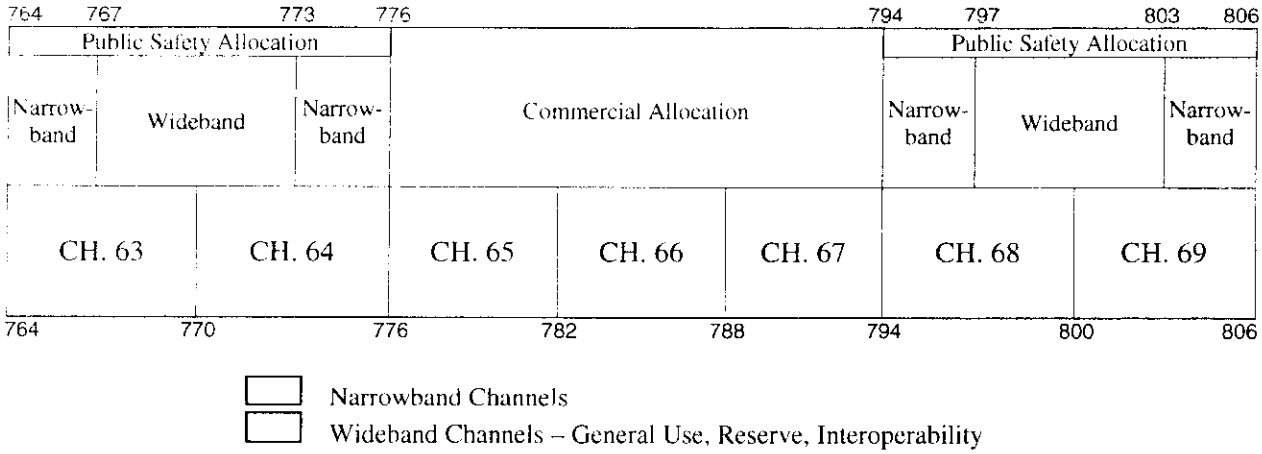
[48] *700 MHz Guard Bands Notice*, 21 FCC Rcd at 10433-34 ¶ 46.

the *700 MHz Guard Bands Notice*, we also tentatively concluded that any decision to shift the existing Upper 700 MHz band plan in a way that affects "recovered analog spectrum" within the DTV transition would need to provide sufficient time for the Commission to meet its statutory obligation to commence auctioning by January 28, 2008.[49]

D. 700 MHz Public Safety Proceeding

30. The public safety allocation comprises 24 megahertz of spectrum in the Upper 700 MHz Band, including 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. The following figure shows the current band plan for a portion of the Upper 700 MHz Band, including all of the 700 MHz Public Safety Band.

FIGURE 6: 700 MHZ PUBLIC SAFETY BAND (PRIOR TO REVISIONS)



31. As this figure demonstrates, the current allocation for the public safety portion of the 700 MHz Band does not allow for broadband applications. The Commission recognized the importance of broadband communications for public safety users in its December 2005 Report to Congress submitted pursuant to the Intelligence Reform Act.[50] In that report, the Commission observed 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.[51] The Report to Congress found that emergency response providers would benefit from development of an integrated, interoperable network capable of delivering broadband services nationwide.[52]

32. In the *700 MHz Public Safety Eighth Notice* adopted in March 2006, the Commission sought comment on the use of the 700 MHz Public Safety Band to accommodate the broadband needs of public safety.[53] The Commission sought comment on various potential revisions to the band plan for the

[49] *Id.* at 10434-35 ¶ 47.

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

[51] *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*).

[52] *Id.*

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

700 MHz Public Safety Band, as proposed by the National Public Safety Telecommunications Council (NPSTC), Motorola, and Lucent.[54] All of the proposals recommended forming a broadband segment that would aggregate the wideband general use channels, wideband interoperability channels, and wideband reserve spectrum. 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.[55]

33. In addition, in the *700 MHz Guard Bands Notice*, discussed above, we sought comment on possible modifications to the rules governing the 700 MHz Guard Band licensees, and on any costs such changes that benefit the Guard Bands would impose on public safety users.[56] We tentatively concluded in the *700 MHz Guard Bands Notice* that any 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.

34. In the *700 MHz Public Safety Ninth Notice* that we subsequently adopted in December 2006, we proposed "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."[57]

E. 700 MHz Report and Order and 700 MHz Further Notice

35. *700 MHz Report and Order.* In the *700 MHz Report and Order* portion of the item that we adopted in April 2007, we made several decisions with regard to the commercial spectrum in the 700 MHz Band. In particular, for the commercial licenses that had not yet been auctioned we decided to adopt a mix of geographic license sizes, including Cellular Market Areas (CMAs), Economic Areas (EAs), and Regional Economic Area Groupings (REAGs). In addition, we found that existing competitive bidding rules and secondary markets rules allow licensees sufficient opportunity to aggregate licenses during and after an auction and that no additional rules were needed to facilitate such aggregation. We also took steps to help minimize uncertainty with regard to licenses in this band by eliminating rules that allowed for comparative hearings at renewal and by extending the termination date for initial license terms from January 15, 2015, to February 17, 2019. By this action, licensees were provided with an initial license term that was not to exceed ten years from the end of the DTV transition. To provide greater operational flexibility to licensees in the Commercial Services Band, we adopted a power spectral density (PSD) model, with certain limitations, and we allowed these licensees to operate at higher radiated power in rural areas. We also allowed licenses for already auctioned spectrum and licenses for unpaired spectrum in the Lower 700 MHz Band to retain the 50 kW ERP level for base station operations, but we concluded that licenses for paired spectrum in the Lower 700 MHz Band should have limits similar to those established for the Upper 700 MHz Band. Further, we established that licensees in these bands could meet their radiated power limits on an average, rather than peak, basis. We also modified our 911/E911 rules to apply to all Commercial Mobile Radio Services (CMRS) that meet the scope requirements in our current rules.[58] Similarly, we required that all digital CMRS providers, as well as manufacturers of handsets capable of providing such service, comply with our hearing aid

[54] *Id.* at 3676-79 ¶¶ 14-22.

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

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

[57] *700 MHz Public Safety Ninth Notice*, 21 FCC Rcd at 14838 ¶ 3.

[58] *700 MHz Report and Order*, 22 FCC Rcd at 8108-14 ¶¶ 120-136.

compatibility requirements, to the extent the services of such providers meet the scope requirements in our current rules.[59]

36. In the *700 MHz Report and Order*, we also took steps to promote more efficient and effective use of the 700 MHz Guard Band spectrum. Specifically, we replaced the "band manager" leasing regime with the spectrum leasing policies and rules adopted in the Commission's Secondary Markets proceeding. In applying the Secondary Markets spectrum leasing rules to the 700 MHz Guard Bands, we also eliminated 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. These changes created more operational flexibility for 700 MHz Guard Band licensees.[60]

37. *700 MHz Further Notice.* In the *700 MHz Further Notice*, which consolidated the 700 MHz Commercial Services, 700 MHz Guard Bands, and 700 MHz Public Safety proceedings, we sought comment on a number of issues affecting both commercial and public safety services in the 700 MHz Band. With regard to the commercial spectrum, we proposed to maintain the current band plan for the Lower 700 MHz Band and license the A Block on an EA basis, the B Block on a CMA basis, and the E Block on an REAG basis.[61] For the Upper 700 MHz Band, we sought comment on several band plan proposals, which differ both in terms of the size of spectrum blocks as well as the size of geographic service areas.[62] We also sought additional comment on the performance requirements for commercial licensees that have not yet been auctioned in the 700 MHz Band and proposed the use of geographic benchmarks for these licensees.[63]

38. In the *700 MHz Further Notice*, we sought comment on several issues affecting the Guard Bands spectrum, including a tentative conclusion not to adopt certain proposals to restructure the Upper 700 MHz Band, including the BOP.[64] While we tentatively concluded that we do not have the legal authority[65] and that it would not be in the public interest to adopt the BOP,[66] we also sought comment on other measures that the Commission could take to promote the most efficient use of the Guard Bands spectrum.[67]

39. With regard to the 700 MHz Public Safety Band, we sought comment in the *700 MHz Further Notice* on a tentative conclusion to redesignate the wideband spectrum to broadband use, consistent with a nationwide interoperability standard, and to prohibit wideband operations on a going forward basis.[68] In addition, we tentatively concluded that, should we adopt this broadband approach, we would reconfigure the 700 MHz Public Safety spectrum to consolidate the narrowband spectrum at the top and locate the broadband spectrum at the bottom of this allocation.[69]

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[59] *Id.* at 8115-21 ¶¶ 137-150.

[60] *Id.* at 8121-28 ¶¶ 151-168.

[61] *700 MHz Further Notice*, 22 FCC Rcd at 8129-31 ¶¶ 177-81.

[62] *See id.* at 8131-40 ¶¶ 182-206.

[63] *Id.* at 8140-43 ¶¶ 207-20.

[64] *Id.* at 8144-54 ¶¶ 222-49.

[65] *Id.* at 8147-50 ¶¶ 228-34.

[66] *Id.* at 8150-52 ¶¶ 235-41.

[67] *Id.* at 8152 ¶ 242.

[68] *Id.* at 8155-56 ¶¶ 252-3.

[69] *Id.* at 8156-57 ¶¶ 254-7.

40. In the *700 MHz Further Notice*, we also sought comment on a proposal, the "Public Safety Broadband Deployment Plan," filed by Frontline Wireless, LLC ("Frontline").[70] In particular, we asked commenters to address Frontline's proposal that the Commission create a nationwide 10-megahertz commercial license that would require the licensee to construct and operate a nationwide, interoperable broadband network that would be shared with a public safety broadband licensee providing broadband service on the lower portion of the 700 MHz Public Safety spectrum.[71] We also sought 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 proposal,[72] as well as the possible effects of this proposal on the remaining commercial spectrum in the Upper 700 MHz Band.[73]

41. On May 21, 2007, Google Inc. ("Google") filed an *ex parte* letter in this proceeding, asking that the Commission seek immediate comment on certain proposals regarding the service rules for the 700 MHz Band spectrum that is to be auctioned.[74] On May 24, 2007, the Wireless Bureau issued a public notice requesting comment on those proposals.[75]

III. DISCUSSION

42. In this Second Report and Order, we take several interrelated actions with respect to the commercial services, including the Guard Bands, and the public safety services to promote broadband deployment throughout the 700 MHz Band to better serve American consumers and the needs of the public safety community. With regard to the commercial services in the 700 MHz Band, we increase the amount of spectrum to be auctioned, from 60 megahertz to 62 megahertz, by eliminating 2 megahertz of the Guard Band B Block, and we provide for a revised mix of small, regional, and large geographic service area licenses – CMAs, EAs, and REAGs respectively – and include one large 22-megahertz spectrum block (comprised of paired 11-megahertz blocks). We also designate a 10-megahertz block of commercial spectrum (comprised of paired 5-megahertz blocks), the Upper 700 MHz Band D Block, that will be part of the 700 MHz Public/Private Partnership. With regard to the 700 MHz Public Safety Band, we designate the public safety wideband spectrum for broadband use consistent with a nationwide interoperability standard, consolidate the existing narrowband allocations in the upper half of the 700 MHz Public Safety Band, locate broadband communications in the lower part, and create a Public Safety Broadband Licensee to manage the development of a broadband communications network with a nationwide level of interoperability. We also adjust the locations of the 700 MHz Guard Band blocks to permit a 1-megahertz shift of the 700 MHz Public Safety Band to address public safety narrowband operations in border areas of the country.

43. In addition, we adopt policies and rules relating to the establishment of the public/private

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[70] *Id.* at 8160-68 ¶¶ 268-90. *See generally* Frontline *700 MHz Public Safety Ninth Notice* Comments; Comments of Frontline Wireless, LLC, WT Docket No. 06-150 (filed Mar. 6, 2007); Frontline *700 MHz Public Safety Ninth Notice* Reply Comments; 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); 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).

[71] *See 700 MHz Further Notice*, 22 FCC Rcd at 8164 ¶ 277.

[72] *Id.* at 8164 ¶ 278.

[73] *Id.* at 8164 ¶ 279.

[74] Letter from Richard S. Whitt, Esq., Washington Telecom and Media Counsel, Google, Inc. to Marlene H. Dortch, Secretary, FCC, filed May 21, 2007 (*Google Ex Parte*).

[75] Comment Sought on Google Proposals Regarding Service Rules for 700 MHz Spectrum, 72 Fed. Reg. 29930 (May 30, 2007) (*Google 700 MHz Service Rules PN*).

partnership between the commercial Upper 700 MHz Band D Block licensee and the Public Safety Broadband Licensee, with both working together in developing a nationwide interoperable broadband network available to state and local public safety users. We also decide that block-specific aggregate reserve prices should be applied to the 700 MHz Band licenses in the upcoming auction. As detailed below, if the aggregate reserve price is not satisfied for licenses in the A, B, or E blocks, we will offer alternative licenses subject to different performance requirements from those adopted below. With respect to the C Block licenses, if the aggregate reserve is not met, we make other changes to the provisions adopted below with respect to alternative licenses to be offered. The revised band plan for the 700 MHz Band for the commercial services, including the Guard Bands, and the public safety services, is set forth in detail below.

A. Commercial 700 MHz Band, Including 700 MHz Guard Bands

1. Band Plan

44. As discussed herein, we revise the band plan for the commercial 700 MHz Band spectrum, including Guard Band spectrum, consistent with the record before us, to balance several competing goals, including facilitating access to spectrum by both small and large providers, providing for the efficient use of the spectrum, and better enabling the delivery of broadband services in the 700 MHz Band. In particular, we adopt a revised band plan that provides for auctioning a total of 62 megahertz of spectrum – 30 megahertz in the Lower 700 MHz Band and 32 megahertz in the Upper 700 MHz Band – in the upcoming 700 MHz Band auction. As discussed more fully below, we are designating one 10-megahertz block (comprised of paired 5-megahertz blocks) of this commercial spectrum, adjacent to the Public Safety spectrum, to be used as part of the 700 MHz Public/Private Partnership. With regard to the size of geographic service areas and size of the spectrum blocks of the licenses to be auctioned, we take an approach similar to the one we took for the AWS-1 service rules by adopting a mix of geographic area sizes, comprised of CMAs, EAs, and REAGs, and including one large 22-megahertz block (comprised of paired 11-megahertz blocks).[76]

a. Commercial Spectrum (Excluding Guard Bands Spectrum)

(i) Background

45. *700 MHz Commercial Services Notice.* In the *700 MHz Commercial Services Notice*, we sought comment on the band plan for the then 60 megahertz of non-Guard Band commercial spectrum that remained to be auctioned in the 700 MHz Band, including both the size and alignment of spectrum blocks and the size of geographic service areas for the spectrum.[77] We noted that the Commission had already auctioned 18 megahertz of non-Guard Band commercial spectrum – 12 megahertz by CMAs and 6 megahertz by EAGs – and that it initially had planned to auction the then remaining 60 megahertz of this spectrum on an EAG basis. We asked whether additional licenses should be auctioned over service area sizes other than EAGs, including over smaller areas such as CMAs.[78] We also asked whether the one large 20-megahertz block of paired spectrum in the Upper 700 MHz Band, which had been established by the Commission to enable a greater range of broadband services in the 700 MHz Band, should be divided into blocks of smaller bandwidth.[79] In addition, we sought comment on whether there should be any changes to the size and location of spectrum blocks in the Lower 700 MHz Band.[80] The original band

[76] *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 14058,14069 ¶ 20 (2005) (*AWS-1 Order on Reconsideration*).

[77] *See 700 MHz Commercial Services Notice*, 21 FCC Rcd at 9362-69 ¶¶ 27-48.

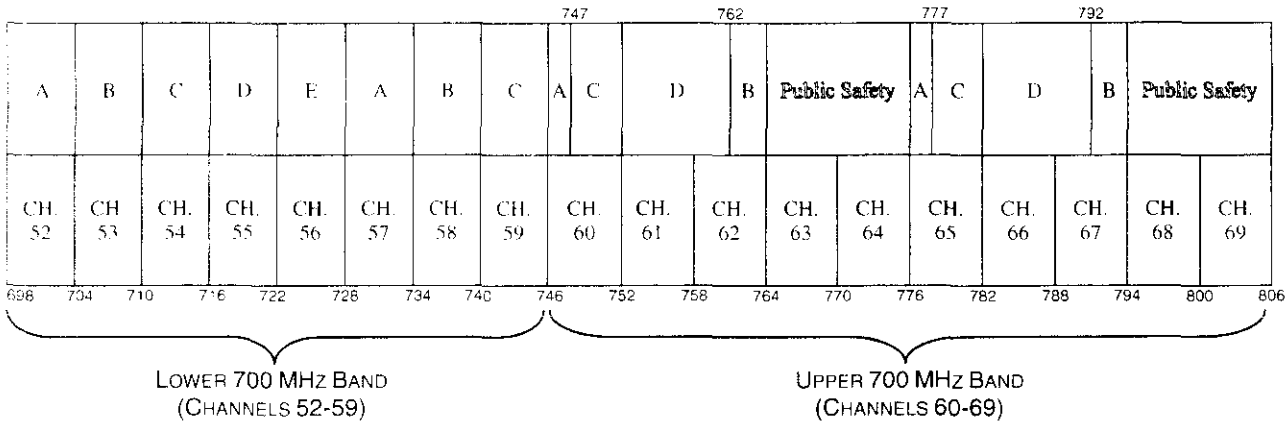
[78] *Id.* at 9347 ¶ 2, 9362-73 ¶¶ 27-59.

[79] *Id.* at 9352-53 ¶ 11, 9370-72 ¶¶ 51-55; *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 492 ¶ 38.

[80] *See 700 MHz Commercial Services Notice*, 21 FCC Rcd at 9369-70 ¶ 50.

plan appears in Figure 7.

FIGURE 7: ORIGINAL 700 MHZ BAND PLAN



Block	Frequencies	Bandwidth	Pairing	Area Type	Licenses
A	698-704, 728-734	12 MHz	2 x 6 MHz	EAG	6
B	704-710, 734-740	12 MHz	2 x 6 MHz	EAG	6
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	EAG	6
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	EAG	6
D	752-762, 782-792	20 MHz	2 x 10 MHz	EAG	6

*Blocks have been auctioned.

46. In response to the *700 MHz Band Commercial Services Notice,* many commenters proposed that the Commission make a variety of changes with regard to the existing band plan for this commercial spectrum, as discussed below. Others, however, recommended that we make few if any changes to the existing band plan for this spectrum concerning the size of the service areas of the licenses to be auctioned, the size of the spectrum blocks, or the alignment of spectrum blocks.

47. With respect to the size of service areas in the 700 MHz Band, many commenters, including small and regional service providers, entities representing rural interests, and a coalition including cable television providers, supported revisiting the existing band plan and suggested that the Commission adopt a mix of the proposed license areas.[81] Some of these same commenters favored

[81] *See* Aloha *700 MHz Commercial Services Notice* Comments at ii, 3-6; Aloha *700 MHz Commercial Services Notice* Reply Comments at 1-3; Corr *700 MHz Commercial Services Notice* Comments at 3; Leap *700 MHz Commercial Services Notice* Comments 4-6; MetroPCS *700 MHz Commercial Services Notice* Reply Comments at 2-8; 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, 2007 *Ex Parte* in WT Docket No. 06-150") at 2-11; U.S. Cellular *700 MHz Commercial Services Notice* Comments at 4-7; 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 were 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 Department of Public Service *et al.*, (continued....)

making one or more license available based on small geographic areas,[82] and supported the use of smaller service areas in general and CMAs in particular.[83] 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.[84] Other commenters, including small and larger carriers as well as rural interests and a tribal representative, also supported service areas smaller than EAGs.[85] In addition, some commenters offered support for smaller service areas and also advocated unlicensed use of the spectrum.[86] Access Spectrum/Pegasus supported the use of MEAs, which are the service areas for the

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Vermont Telephone Company); MilkyWay *700 MHz Commercial Services Notice* Comments at 4; *see also* CTIA *700 MHz Commercial Services Notice* Comments at 6 (mix of service areas for AWS-1 spectrum served the wireless marketplace well).

[82] *See* Aloha *700 MHz Commercial Services Notice* Comments at ii, 3-6; Balanced Consensus Plan; Blooston *700 MHz Commercial Services Notice* Comments at 2, Corr *700 MHz Commercial Services Notice* at 2-4; Dobson *700 MHz Commercial Services Notice* Comments at 2-4; Leap *700 MHz Commercial Services Notice* Comments at 4-6; MilkyWay *700 MHz Commercial Services Notice* Comments at 1-6; U.S. Cellular *700 MHz Commercial Services Notice* Comments at 4-7.

[83] *See* Aloha *700 MHz Commercial Services Notice* Comments at 3; Aloha *700 MHz Commercial Services Notice* Reply Comments at 2-3; Blooston *700 MHz Commercial Services Notice* Comments at 1, 2; C&W *700 MHz Commercial Services Notice* Comments at 2; Consumer Federation of America, *et al. 700 MHz Commercial Services Notice* Comments at 4-5; Corr *700 MHz Commercial Services Notice* Comments at 2-4; Dobson *700 MHz Commercial Services Notice* Comments at 2-4; Howard/Javed *700 MHz Commercial Services Notice* Comments at i, 9-11, 21; Leap *700 MHz Commercial Services Notice* Comments at 5; MetroPCS *700 MHz Commercial Services Notice* Comments at 13; MetroPCS *700 MHz Commercial Services Notice* Reply Comments at 2-3; MilkyWay *700 MHz Commercial Services Notice* Comments at 3-5; NextWave *700 MHz Commercial Services Notice* Reply Comments at 12-13; OPASTCO *700 MHz Commercial Services Notice* Comments at 2-3; RCA *700 MHz Commercial Services Notice* Comments at 4-8; RCA *700 MHz Commercial Services Notice* Reply Comments at 3; RTG *700 MHz Commercial Services Notice* Comments at 2-3; RTG *700 MHz Commercial Services Notice* Reply Comments at 3; U.S. Cellular *700 MHz Commercial Services Notice* Comments at 5-7; U.S. Cellular *700 MHz Commercial Services Notice* Reply Comments at 4-5; *see also* NTCA *700 MHz Commercial Services Notice* Comments at 6 (supporting 20 megahertz allocation over CMAs).

[84] The Balanced Consensus Plan recommended 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 included a proposed reconfiguration of current D Block in the Upper 700 MHz Band by splitting that block into two 10-megahertz blocks. In a subsequent *ex parte* submission by representatives of multiple parties supporting the Balanced Consensus Plan, the following changes to the 700 MHz band plan were proposed: (1) in the Lower 700 MHz Band, license one paired block over CMAs, and one paired block over EAs, and the remaining unpaired spectrum over REAGs; (2) in the Upper 700 MHz Band, subdivide the 20-megahertz block into two 10-megahertz paired blocks, and make one of those two blocks available on a basis smaller than an REAGs. Letter from Michael Lazarus, filing on behalf of MetroPCS Communications Inc. *et al.*, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 06-150 (filed Apr. 18, 2007).

[85] *See* MilkyWay *700 MHz Commercial Services Notice* Comments at 4-5 (supporting a mix of different license sizes, including CMAs); Polar *700 MHz Commercial Services Notice* Comments at 1 (urging CMA licenses over 20 megahertz); Frontier *700 MHz Commercial Services Notice* Comments at 1, 5-7 (supports reducing size of all unauctioned spectrum to areas no larger than RSAs and MSAs; also supports county-sized licenses); T-Mobile *700 MHz Commercial Services Notice* Reply Comments at 3 (geographic areas smaller than EAGs are more likely to fall within business plans of parties with limited resources); OPASTCO *700 MHz Commercial Services Notice* Comments at 2; NextWave *700 MHz Commercial Services Notice* Reply Comments at 12-13; Howard/Javed *700 MHz Commercial Services Notice* Comments at i, 9; Navajo Nation *700 MHz Commercial Services Notice* Comments at 1 (supporting EA licensing).

[86] *See* NextWave *700 MHz Commercial Services Notice* Reply Comments at 9-12; *see also* Howard/Javed *700 MHz Commercial Services Notice* Comments at i, 9 (supporting the provision of easements allowing unlicensed use of (continued....)

Guard Band licenses, in connection with its specific proposal to reconfigure the Upper 700 MHz Band.[87]

48. Other commenting parties, including Cingular, Verizon Wireless, Motorola, and AT&T, opposed revising the band plan to provide for additional small-area licenses in the 700 MHz Band.[88] CTIA stated that, in evaluating possible revisions and determining the appropriate license area size(s), the Commission should consider all of the 700 MHz Band spectrum (*i.e.*, both the previously auctioned and the unauctioned spectrum), the AWS-1 licensing frameworks, and the various secondary market opportunities available today.[89] DIRECTV/EchoStar recommended that we include a nationwide license in the mix of license sizes.[90]

49. With respect to the size of the spectrum blocks that remained to be auctioned, commenting parties disagreed as to whether we should include a large 20-megahertz block (comprised of paired 10-megahertz blocks) or instead create differently sized or smaller blocks. In particular, Motorola, Qualcomm, Verizon Wireless, CTIA, and DIRECTV/EchoStar opposed dividing the existing 20-megahertz D Block in the Upper 700 MHz Band into one or more additional blocks, asserting that a wider spectrum block may result in benefits in terms of providing broadband and other advanced services, and that this block is the only large spectrum block in the band.[91] Access Spectrum/Pegasus, in connection

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700 MHz spectrum). The issues raised by these commenters concerning unlicensed use of the 700 MHz Band are addressed in this Second Report and Order.

[87] *See* Access Spectrum/Pegasus *700 MHz Commercial Services Notice* Comments at 23-24.

[88] *See* Cingular *700 MHz Commercial Services Notice* Comments at 5-9 (commenting that absent need for spectrum in rural areas and economic basis for CMAs, the band plan should not be modified); Cingular *700 MHz Commercial Services Notice* Reply Comments at 3-9; Verizon Wireless *700 MHz Commercial Services Notice* Comments at 3-5; Verizon Wireless *700 MHz Commercial Services Notice* Reply Comments at 3-6; Motorola *700 MHz Commercial Services Notice* Comments at i. 3-9; Motorola *700 MHz Commercial Services Notice* Reply Comments at 2-3; AT&T *700 MHz Commercial Services Notice* Comments at 3-11; AT&T *700 MHz Commercial Services Notice* Reply Comments at 3-12; *see also* CTIA *700 MHz Commercial Services Notice* Comments at 1-2 (commenting that in large part, the existing licensing and service rules should be left unchanged); Qualcomm *700 MHz Commercial Services Notice* Comments at 17 (commenting that economies of scale argues in favor of big geographic areas). 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 *700 MHz Commercial Services Notice* Reply Comments at 9 (arguing that any changes to band plan should be limited to the Upper 700 MHz Band); AT&T *700 MHz Commercial Services Notice* Reply Comments 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).

[89] CTIA *700 MHz Commercial Services Notice* Comments at 5-6; *see also* Verizon Wireless *700 MHz Commercial Services Notice* Reply Comments in at 4-5 (commenting that the 700 MHz Band spectrum will not be auctioned "in a vacuum").

[90] DIRECTV/EchoStar *700 MHz Commercial Services Notice* Comments at 3.

[91] *See* Motorola *700 MHz Commercial Services Notice* Comments at 5-6 (commenting that broadband generally more efficient when deployed in wider bandwidth); Qualcomm *700 MHz Commercial Services Notice* Comments at 18 (commenting that 20-megahertz block helps to facilitate delivery of technically advanced services and dividing the block may decrease overall spectral efficiency); Verizon Wireless *700 MHz Commercial Services Notice* Reply Comments at 6-7 (commenting that only this block could arguably be considered as large); CTIA *700 MHz Commercial Services Notice* Comments at 6-7 (commenting that licenses of 20 megahertz or more provide important opportunities for broadband services, and it's the only large block in the band); DIRECTV/EchoStar *700 MHz Commercial Services Notice* Reply Comments at 7-8 (commenting that 20 megahertz may not be enough spectrum to permit competition with incumbents given the growth of applications); *see also* Polar *700 MHz Commercial Services Notice* Comments at 1 (arguing that CMA licenses should be made available over 20 megahertz to support future wireless broadband applications).

with its "Broadband Optimization Plan" (BOP),[92] proposed that 15 megahertz of the Upper 700 MHz Band, drawn from the C and D Blocks, be reconfigured into three blocks of 5.5-megahertz, 5.5-megahertz, and 4-megahertz paired spectrum, which would be situated immediately below a newly created 1.5-megahertz Guard Band A Block.[93] Navini supported the assignment of additional spectrum in the 700 MHz Band for Mobile WiMAX deployment that is conducive to time-division-duplex (TDD) systems, recommending that at least 15 megahertz, and preferably 30 megahertz, be assigned per service provider, and supported making available additional bands of 16.5 megahertz as described by Access Spectrum/Pegasus.[94] Corr proposed revising the Upper 700 MHz Band C and D Blocks to provide for two 15-megahertz blocks (each comprised of two paired 7.5-megaherz blocks).[95] Many other commenters, including representatives of small and rural interests, supported dividing the 20-megahertz Upper 700 MHz Band D Block,[96] and some commenters argued that by dividing the block more licenses with smaller geographic service areas could be made available.[97] NextWave suggested reconfiguring the Upper 700 MHz Band C and D Blocks into two unpaired 10-megahertz blocks and one 10-megahertz block (paired 5-megahertz blocks), and reconfiguring the Lower 700 MHz Band to include two 12-megahertz and one 6-megahertz unpaired blocks.[98] Howard/Javed suggested the use of a 10-megahertz block (paired 5-megahertz blocks) and a 14-megahertz block (paired 7-megahertz blocks) in the Lower 700 MHz Band's A and B Blocks, and alternatively proposed that the B Block be an asymmetric 12-megahertz block (7-megahertz and 5-megahertz blocks), with the E Block revised to an 8-megahertz unpaired license.[99]

50. Finally, Tropos recommended that the A and B Blocks of the Lower 700 MHz Band should be auctioned and awarded to licensees that "would administer a contention based unlicensed

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[92] The Commission sought comment on the BOP in its notice respecting issues affecting the 700 MHz Guard Bands. *See 700 MHz Guard Band Service Notice*, 21 FCC Rcd 10413 (2006).

[93] *See* Access Spectrum/Pegasus *700 MHz Commercial Services Notice* Comments at 3-4. In reply comments, Cyren Call argues that proposals relating to the public safety spectrum in the Upper 700 MHz Band such as those suggested by Access Spectrum/Pegasus should be considered in a consolidated manner. Cyren Call *700 MHz Commercial Services Notice* Reply Comments at 3. We note that a petition for rulemaking submitted by Cyren Call seeking, *inter alia*, the reallocation of commercial spectrum in the Upper 700 MHz Band has been dismissed; however, that docket remains open. Reallocation of 30 MHz of 700 MHz Spectrum (747-762/777-792 MHz) from Commercial Use, RM-11348, *Order*, 21 FCC Rcd 13123 (Public Safety and Homeland Security Bureau Nov. 3, 2006).

[94] Navini *700 MHz Commercial Services Notice* Comments at 1.

[95] Corr *700 MHz Commercial Services Notice* Comments at 3.

[96] Commenters that supported the Balanced Consensus Plan suggested that D Block in the Upper 700 MHz Band be split into equal 10-megahertz blocks. *See* Balanced Consensus Plan. In addition to the commenters supporting the Balanced Consensus Plan, Navajo Nation, T-Mobile, and Frontier also supported dividing D Block. *See* Navajo Nation *700 MHz Commercial Services Notice* Comments at 2; T-Mobile *700 MHz Commercial Services Notice* Reply Comments at 3-4; Frontier *700 MHz Commercial Services Notice* Comments at 7. The Consumer Federation of America, *et al.* generally supported small spectrum blocks but did not specifically propose dividing D Block. *See* Consumer Federation of America, *et al. 700 MHz Commercial Services Notice* Comments 4-5.

[97] *See* Frontier *700 MHz Commercial Services Notice* Comments at 7; MetroPCS *700 MHz Commercial Services Notice* Comments at 13-14.

[98] NextWave *700 MHz Commercial Services Notice* Reply Comments at 2-9 & Attach. I. In offering this alternative proposal, NextWave modified its original band plan proposal which suggested adopting unpaired spectrum blocks of 6-15 megahertz. *See* NextWave *700 MHz Commercial Services Notice* Comments at 6-10 & Attach. I.

[99] *See* Howard/Javed *700 MHz Commercial Services Notice* Comments at 8, 9-23.

spectrum environment,"[100] which it contended would promote broadband deployment in rural communities.[101] Several commenters oppose Tropos's recommendation.[102]

51. *700 MHz Report and Order and 700 MHz Band Further Notice.* In the *700 MHz Report and Order*, we decided to replace the initial plan for auctioning the remaining licenses on an EAG basis with a new band plan that provided for a mix of geographic licensing areas consisting of CMAs, EAs, and REAGs. We found that a revised mix of geographic licensing areas in the 700 MHz Band would balance the demand for differently sized licenses demonstrated in the record and enhance access to this spectrum by a variety of potential licensees,[103] noting that this mix of geographic license sizes would be consistent with the licensing opportunities and the balance of competing interests that we achieved in the recent auction of AWS licenses.[104]

52. In the *700 MHz Further Notice*, we sought additional comment with regard to the specific location of these new CMAs, EAs, and REAGs in the commercial license blocks that had not yet been auctioned in the 700 MHz Band. We also requested comment as to whether to alter the alignment of the spectrum blocks in either the Lower 700 MHz Band or Upper 700 MHz Band. Concerning the Lower 700 MHz Band, we proposed to maintain the spectrum blocks as currently sized and aligned,[105] and to license the A Block on an EA basis, the B Block on a CMA basis, and the unpaired E Block on an REAG basis.[106] With respect to the Upper 700 MHz Band, we sought comment on five proposals for reconfiguring the band plan for this spectrum, each presenting a variation on the size and location of the spectrum blocks associated with the Upper 700 MHz Commercial Services Band and the 700 MHz Guard Bands.[107]

53. Regarding these five specific proposals concerning the Upper 700 MHz Band, two of these proposals (Proposals 1 and 3) would provide for two paired spectrum blocks, consisting of one large spectrum block (totaling 22 megahertz) and one smaller block (totaling 12 and 11 megahertz, respectively). The other three proposals (Proposals 2, 4, and 5) would establish three similarly-sized, paired blocks (either 11 or 12 megahertz in size). These five proposals differ as to the appropriate geographic service areas of these licenses.[108]

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[100] *See* Tropos *700 MHz Commercial Services* Comments at 10.

[101] *See* Tropos *700 MHz Commercial Services Notice* Comments; Tropos *700 MHz Commercial Services Notice* Reply Comments.

[102] *See* CTIA *Commercial Services Notice* Reply Comments at 10-11; AT&T *Commercial Services Notice* Reply Comments at 13; Cingular *Commercial Services Notice* Reply Comments at 11.

[103] *700 MHz Report and Order*, 22 FCC Rcd at 8082-86 ¶¶ 42-49.

[104] *Id.* at 8083 ¶ 43.

[105] *See id.* at 8130 ¶ 178.

[106] *700 MHz Further Notice*, 22 FCC Rcd at 8130-31 ¶¶ 178-81.

[107] *Id.* at 8132-40 ¶¶ 183-206.

[108] We also note here that two proposals (Proposals 1 and 2) assume that we eliminate the Guard Band B Block and subsume that 4 megahertz of spectrum within the unauctioned 30 megahertz of commercial spectrum of the Upper 700 MHz Band available for auction, while the other three proposals (Proposals 3, 4, and 5) assume that we modify the 700 MHz Guard Bands and shift their location, as well as the public safety allocation in the band, in a manner that would result in 2 megahertz of Guard Band spectrum being subsumed in the commercial spectrum available for auction. *See 700 MHz Further Notice*, 22 FCC Rcd at 8132-40 ¶¶ 183-206. We discuss elsewhere our decision to revise the change the spectral locations of the Guard Band A and B Blocks and shift the other Upper 700 MHz commercial blocks and the public safety allocation one megahertz, while reducing the size of the Guard Band B Block, which results in 2 megahertz of additional commercial spectrum for auction.

- *Proposal 1.* Two spectrum blocks in the Upper 700 MHz Band – a large 22-megahertz C Block (comprised of two 11-megahertz paired blocks at 747-758/777-788 MHz) and a 12-megahertz D Block (comprised of two 6-megahertz paired blocks at 758-764/788-794 MHz). Both of these blocks would be licensed on a REAG basis.
- *Proposal 2.* Three spectrum blocks – two 11-megahertz licenses, a C Block (comprised of two 5.5-megahertz paired blocks at 747-752.5/777-782.5 MHz) and D Block (comprised of two 5.5-megahertz paired blocks at 752.5-758/782.5-788 MHz), and a 12-megahertz E Block (comprised of two 6-megahertz paired blocks at 758-764/788-794 MHz). The C Block would be licensed over either CMAs or EAs, the D Block would be licensed over EAs, and the E Block would be licensed over REAGs.
- *Proposal 3.* Two spectrum blocks – a 22-megahertz C Block (comprised of two 11-megahertz paired blocks at 746-757/776-787 MHz) and a 10-megahertz D Block (comprised of two 5-megahertz paired blocks at 757-762/787-792 MHz). (This proposal did not provide any specific proposal with regard to geographic service areas.)
- *Proposal 4.* Three spectrum blocks – two 11-megahertz licenses, a C Block (comprised of two 5.5-megahertz paired blocks at 746-751.5/776-781.5 MHz) and a D Block (comprised of two 5.5-megahertz paired blocks at 751.5-757/781.5-787 MHz), and a 10-megahertz E Block (comprised of two 5-megahertz paired blocks at 757-762/787-792 MHz). The C and D Blocks would be licensed over REAGs, and the E Block would be licensed over EAs.
- *Proposal 5.* Three spectrum blocks – two 11-megahertz licenses, a C Block (comprised of two 5.5-megahertz paired blocks at 746-751.5/776-781.5 MHz), and the D Block (comprised of two 5.5-megahertz paired blocks at 751.5-757/781.5-787 MHz), and a 10-megahertz E Block (comprised of two 5-megahertz paired blocks at 757-762/787-792 MHz). The C Block would be licensed over REAGs, and the D and E Blocks would be licensed over EAs.

54. In addition to seeking comment on these five possible variations for the Upper 700 MHz Band, we also sought comment on Frontline's proposal, which recommended that we designate the uppermost commercial spectrum block, licensed on a nationwide basis, for a public/private partnership with a public safety broadband licensee in the Upper 700 MHz Band.[109] We also sought comment on a proposal by PISC to designate at least 30 MHz of commercial spectrum for use on an "open access" basis.[110]

55. In response to the *700 MHz Further Notice*, the Commission received extensive comments on the appropriate band plan for the commercial spectrum in the 700 MHz Band. These comments generally concern both the mix of geographic service area license sizes throughout the band, and the size of the spectrum blocks remaining for auction.

56. With regard to the geographic service areas for the licenses to be auctioned, there is no consensus. Commenters' recommendations vary as to the appropriate mix of CMAs, EAs, or REAGs. Several commenters generally supported adoption of smaller geographic service areas, recommending

[109] We address elsewhere the Upper 700 MHz D Block that will be dedicated to the 700 MHz Public/Private Partnership.

[110] *See 700 MHz Further Notice*, 22 FCC Rcd at 8168 ¶ 290.

licensing one additional CMA block in both the Lower and the Upper 700 MHz Bands.[111] McBride proposes that all of the remaining blocks be auctioned over CMAs, Sprint Nextel and Blooston recommend CMAs for two spectrum blocks in the Upper 700 MHz Band, and Centennial requests that the Upper 700 MHz Band include at least one CMA license block.[112] One commenter, Frontier, continues to support the use of license areas that are even smaller than CMAs.[113] Some commenters express support for a mix of CMAs and EAs. For instance, U.S. Cellular recommends that at least four spectrum blocks should be based on CMAs and EAs.[114] SpectrumCo recommends that, while only one additional CMA-based spectrum block is necessary, the Commission should maximize the number of EA licenses in the band.[115] Cellular South supports the Commission's proposal for the Lower 700 MHz Band which includes a CMA license, and supports adoption of a band plan that includes an EA in the Upper 700 MHz Band.[116] WCA proposes licensing at least one block of EAs in the Lower 700 MHz and one block in the Upper 700 MHz Band.[117] Cyren Call comments that a CMA and EA license should be made available in the Upper 700 MHz Band if the Frontline proposal is adopted.[118] Arguments that commenters supply for adoption of smaller geographic area licenses include that smaller license sizes improve the opportunity to access spectrum[119] or to participate in the auction,[120] encourage rural deployment,[121] allow parties to

[111] *See* Frontier *700 MHz Further Notice Comments* at 2 (commenting that Upper 700 MHz Band should include one license over CMAs or smaller license areas); RTG *700 MHz Further Notice* Comments at 3-6; NTCA *700 MHz Further Notice* Reply Comments at 3-5; Vermont Department of Public Service, *et al. 700 MHz Further Notice* Reply Comments at 5-6; Union *700 MHz Further Notice* Reply Comments at 2; USA Broadband *700 MHz Further Notice* Reply Comments at 2; WISPA *700 MHz Further Notice* Comments at 3-5; Alltel *700 MHz Further Notice* Comments at 2, 3-4 (supporting multiple license blocks with smaller geographic areas and CMAs in particular in the Upper and Lower 700 MHz Bands); RCA *700 MHz Further Notice* Comments at 2 (supporting adoption of CMA licenses in Lower 700 MHz Band, and a license smaller than REAGs, preferably CMAs, in the Upper 700 MHz Band); U.S. Cellular *700 MHz Further Notice* Reply Comments at 4-9 (supporting CMA opportunities in Upper 700 MHz Band and in Lower 700 MHz Band); MetroPCS *700 MHz Further Notice* Comments at 15 (supporting Balanced Consensus Plan as modified).

[112] *See* McBride *700 MHz Further Notice* Comments at 8-9; Sprint Nextel *700 MHz Further Notice* Comments at 5 (suggesting that the existing 20-megahertz block be reconfigured to provide for two 10-megahertz blocks); Blooston *700 MHz Further Notice* Reply Comments at 3 (commenting that two 10-megahertz blocks in the Upper 700 MHz Band should be licensed over CMAs); Centennial *700 MHz Further Notice* Comments at 3-6.

[113] Frontier *700 MHz Further Notice* Comments at 2,8 (supporting one block over CMAs in the Lower 700 MHz Band and one block over CMAs or "smaller license areas" in the Upper 700 MHz Band).

[114] U.S. Cellular *700 MHz Further Notice* Comments at 2.

[115] SpectrumCo *700 MHz Further Notice* Comments at iv, 10-11.

[116] See Cellular South *700 MHz Further Notice* Reply Comments at 6; Cellular South *Ex Parte* June 26, 2007 (suggesting that a CMA license should be offered in the lower band, and a license smaller than an REAG in the upper band).

[117] WCA *700 MHz Further Notice* Comments at 12.

[118] Cyren Call *700 MHz Further Notice* Comments at 39.

[119] *See* 700 MHz Independents *700 MHz Further Notice* Comments at 3; RTG *700 MHz Further Notice* Comments at 3.

[120] *See* Frontier *700 MHz Further Notice* Comments at 7; Embarq *700 MHz Further Notice* Comments at 5-6; SBA *700 MHz Further Notice* Comments at 9 (quoting from SpectrumCo *ex parte* submission).

[121] *See* Alltel *700 MHz Further Notice* Comments at 2, 4; Aloha *700 MHz Further Notice* Comments at 2-3; Frontier *700 MHz Further Notice* Comments at 7; Embarq *700 MHz Further Notice* Comments at 5-6; WISPA *700 MHz Further Notice* Comments at 4; RCA *700 MHz Further Notice* Reply Comments at 12; RTG *700 MHz Further Notice* Comments at 6.