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
	)	
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.

TABLE OF CONTENTS

Heading Paragraph #

I. INTRODUCTION 1
II. BACKGROUND 14
A. DTV Transition and Reclamation of the 700 MHz Band 15
B. 700 MHz Commercial Services Proceeding 18
C. 700 MHz Guard Bands Proceeding 24

D. 700 MHz Public Safety Proceeding 30
E. 700 MHz Report and Order and 700 MHz Further Notice 35
III. DISCUSSION 42
A. Commercial 700 MHz Band, Including 700 MHz Guard Bands 44
1. Band Plan 44
a. Commercial Spectrum (Excluding Guard Bands Spectrum) 45
(i) Background 45
(ii) Discussion 62
b. Guard Bands Spectrum 97
(i) Background 97
(ii) Discussion 111
2. Service Rules 140
a. Commercial Services (Excluding Guard Bands and Upper 700 MHz D Block) 140
(i) Performance Requirements 140
(ii) Partitioning and Disaggregation 178
(iii) Open Platforms for Devices and Applications 189
(iv) Use of Dynamic Spectrum Management Techniques 231
(v) Protection of 700 MHz Public Safety Operations 249
(vi) Licensee Eligibility 252
b. 700 MHz Guard Bands 260
(i) Treatment of Reconfigured A Block 260
(ii) Treatment of Reconfigured B Block 266
(iii) Treatment of PTPMS II Licenses 268
(iv) License Terms 271
3. Auctions-Related Issues 274
a. Anonymous Bidding 274
b. Declaratory Ruling on Anti-Collusion Rule Reporting Requirement 285
c. Package Bidding 287
d. "New Entrant" Bidding Credit 293
e. Reserve Prices 297
f. Statutory Deposit Deadline 318
B. 700 MHz Public Safety Spectrum 322
1. Band Plan 323
a. Broadband Segment 324
b. Narrowband Segment 327
(i) Consolidation of Narrowband Channels 327
(ii) Timing of Narrowband Consolidation 330
(iii) Funding Issues 345
c. Regional Planning Committee Plans 345
d. Internal Guard Band 347
e. Border Issues 349
f. Technical Parameters 353
(i) Broadband Power Limits 354
(ii) Broadband Emission Limit 360
(iii) Broadband Interoperability Standard 363
2. Public Safety Broadband Licensee 365
a. Single Nationwide Geographic Area License 367
b. Eligibility Criteria 371
c. Selection Process 378
d. Responsibilities of the Public Safety Broadband Licensee 381
e. Licensing Issues 384
C. 700 MHz Public/Private Partnership 386
1. Adoption of the 700 MHz Public/Private Partnership 388
2. Essential Components of Public/Private Partnership 403
a. Shared Wireless Broadband Network 403

b. Spectrum Use 407
c. Performance Requirements 432
d. Network Sharing Agreement (NSA) and Mandatory Provisions 444
e. License Term and Renewal Expectancy for the Public/Private Partnership 455
f. Public Safety Satellite Support 460
g. Local Public Safety Build-out and Operation 469
3. Safeguards Relating to the Public/Private Partnership 497
a. Rules for Establishment, Execution and Application of the NSA 497
b. Ongoing Conditions for the Protection of Public Safety Service 513
4. Other Issues 531
a. Bidding Credits 531
b. License Partitioning, Disaggregation, Assignment, and Transfer 538
c. Commercial Service Issues 543
(i) Wholesale and Open Access Proposals 543
(ii) Roaming Proposal 547
(iii) Applicability of CALEA, E911, and Other Requirements 550
IV. PROCEDURAL MATTERS 554
A. Regulatory Flexibility Act 554
B. Paperwork Reduction Act of 1995 555
V. ORDERING CLAUSES 556

Appendix A: Comments and Reply Comments
Appendix B: Final Rules
Appendix C: Final Regulatory Flexibility Analysis
Appendix D: Upper 700 MHz A Block License Modifications

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 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

[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] *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*).

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 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

(Continued from previous page)

[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.

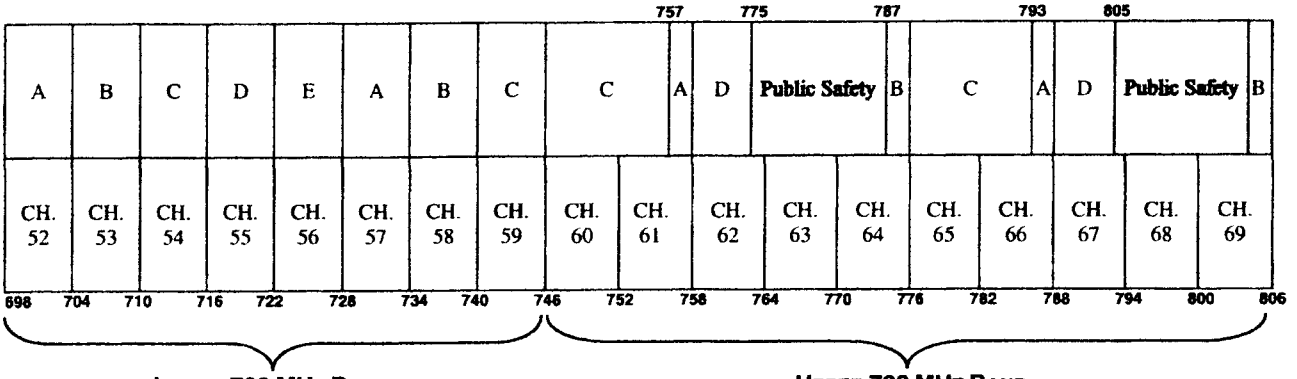
[6] *700 MHz Report and Order*, 22 FCC Rcd at 8121-28 ¶¶ 151-68.

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

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.

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

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

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.

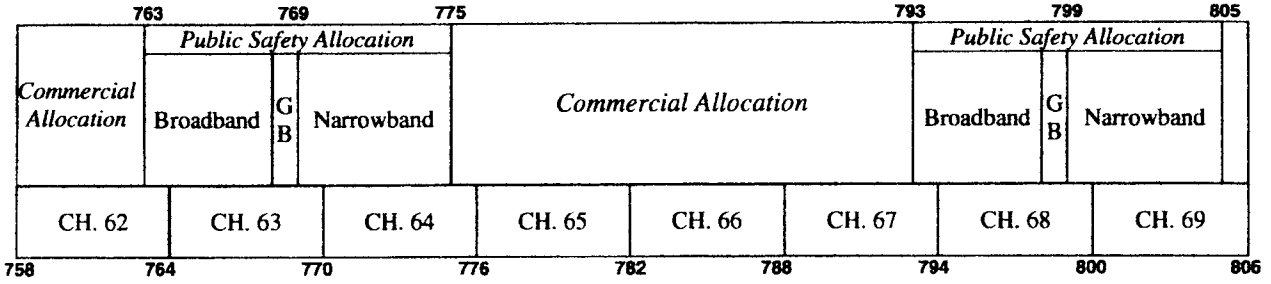
7. In addition, we determine that for one commercial spectrum block in the 700 MHz Band, the Upper 700 MHz Band C Block, licensees will be required to allow customers, device manufacturers, third-party application developers, and others to use devices and applications of their choice, subject to certain 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 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

---

[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.

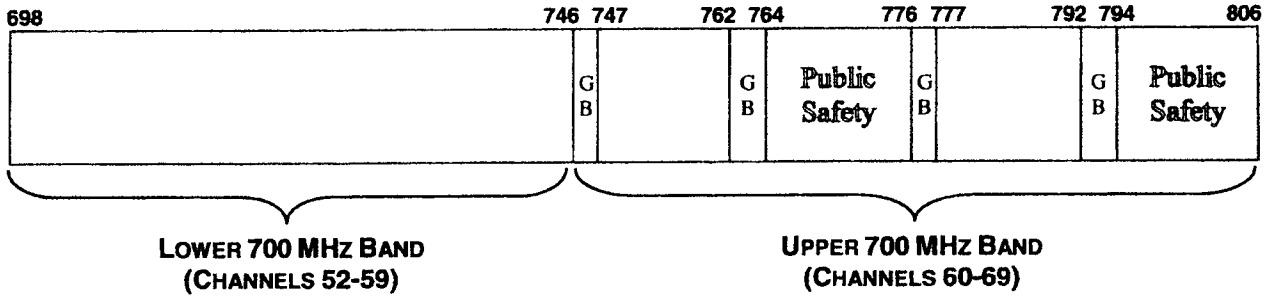
[13] *See 700 MHz Public Safety Ninth Notice*, 21 FCC Rcd at 14838-39 ¶¶ 5-6; *see generally 700 MHz Public Safety Eighth Notice.*

[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 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).

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.

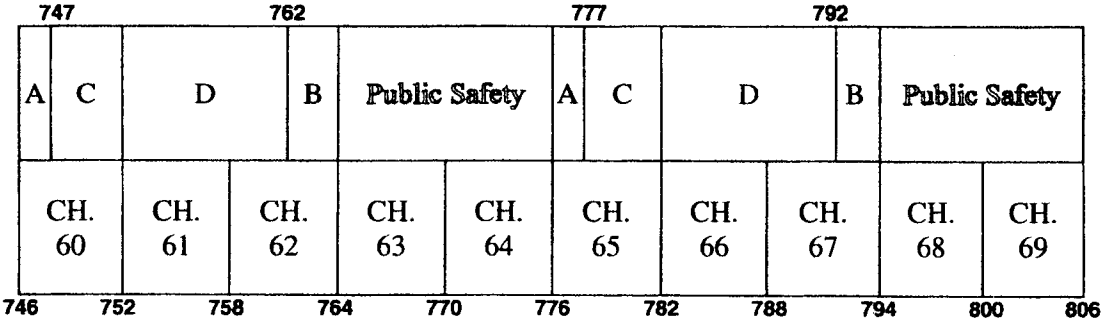
[16] *See* Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, MM Docket No. 87-268, *Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order*, 13 FCC Rcd 7418, 7435-36 ¶ 42 (1998) (*DTV MO&O of the Sixth Report and Order*). The Commission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

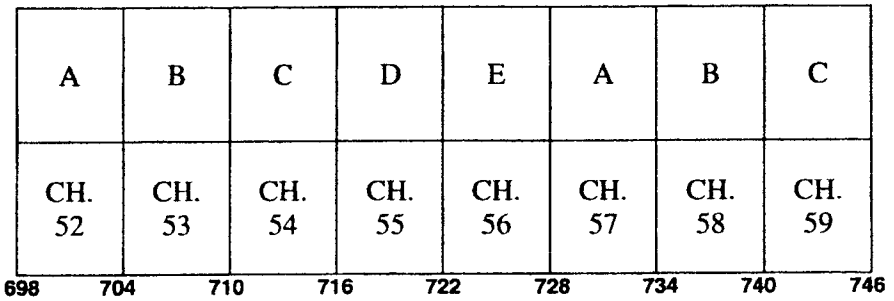
[22] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 500 ¶¶ 56-57.

[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)



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, 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.

---

[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.

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 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

---

[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, 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*).

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 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.

---

[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.

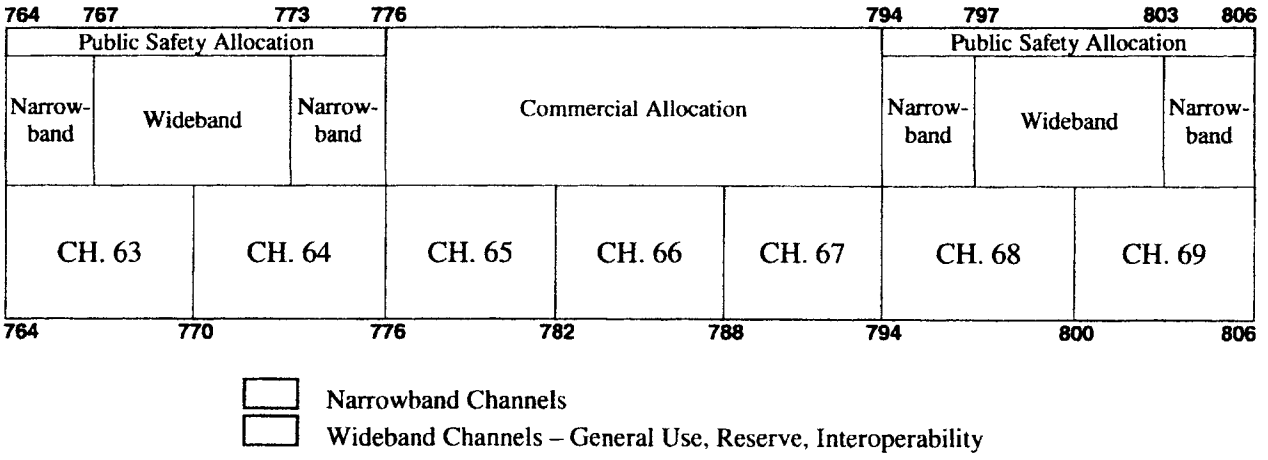
[46] *700 MHz Guard Bands Notice*, 21 FCC Rcd at 10429-30 ¶¶ 37-39.

[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.

[49] *Id.* at 10434-35 ¶ 47.

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 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.

---

[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.

[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.

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 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

[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.

[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.

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]

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

---

[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.

[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*).

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 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]

---

[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*).

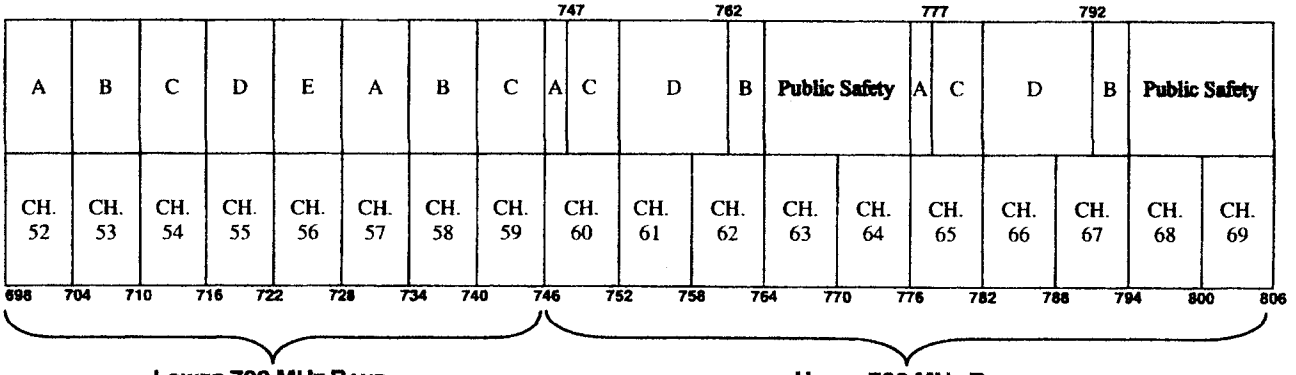
[76] *See* Service Rules for Advanced Wireless Services in the 1.7 and 2.1 GHz Bands, WT Docket No. 02-353, *Order on Reconsideration*, 20 FCC Rcd 14058,14069 ¶ 20 (2005) (*AWS-1 Order on Reconsideration*).

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 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

[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.

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 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

[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.*, 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).

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 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

---

[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 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 (continued....)

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

(Continued from previous page)
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).

[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.

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 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]

---

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

[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 (continued....)

- *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 licensing one additional CMA block in both the Lower and the Upper 700 MHz Bands.[111] McBride

(Continued from previous page)

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.

[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.

[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* (continued....)

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 acquire enough spectrum to fit their intended service areas,[122] and permit new entrants to acquire

(Continued from previous page)
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.

[122] *See* Cellular South *700 MHz Further Notice* Comments at 8, 10 (increasing likelihood of acquiring licenses for areas they intend to serve); Frontier *700 MHz Further Notice* Comments at 4 (enabling acquisition of licenses for rural areas alone); RTG *700 MHz Further Notice* Comments at 5 (commenting that large companies can acquire spectrum for needed urban areas without acquiring spectrum for rural areas).

spectrum.[123] Some commenters argue that smaller geographic areas are required because there is a lack of service to rural areas by national carriers,[124] and that large geographic areas favor large companies.[125]

57. Many commenters generally support licensing by larger geographic service areas, *i.e.*, over REAGs. 4G Coalition, which supports licensing a larger block in the Upper 700 MHz Band over REAGs, states that it is expensive and difficult to cobble together smaller license areas and that auction exposure risks are present with smaller areas.[126] Google, which also supports REAG-based licenses over a larger block in the Upper 700 MHz Band, asserts that large service areas assist in providing access for new entrants.[127] PISC (a coalition of public interest and consumer groups) contends that the number of REAGs should be maximized.[128] In particular, PISC opposes the adoption of further small geographic area licenses in the Upper 700 MHz Band, arguing that the Commission has already determined to provide over 800 additional licenses over CMAs and EAs in the Lower 700 MHz Band. PISC also suggests that some larger carriers that have expressed support for smaller licenses may not be seeking to provide relief to rural areas, but instead, are attempting to use the regulatory process to block competitors from developing a national market.[129] Verizon Wireless comments that the entire Upper 700 MHz Band should be licensed over REAGs, and that REAGs are necessary to achieve the goals of providing a mix of licenses and ensuring that advanced services will be deployed on a timely basis.[130] AT&T's proposed band plan contains REAGs and an EA in the Upper 700 MHz Band.[131]

58. Some of the commenters on the appropriate mix of geographic area license sizes also specify which license sizes should be adopted for particular blocks. Many commenters express support for the Commission's proposal relating to the Lower 700 MHz Band to license the A, B, and E Blocks over EAs, CMAs, and REAGs, respectively.[132] For example, among the commenters supporting EAs in the Lower 700 MHz Band's A Block is RCA, which states that licensing that block over EAs will allow carriers of various sizes an opportunity to participate in the auction.[133] Several commenters specify support for licensing the Lower 700 MHz Band's B Block over CMAs.[134] Commenters noted the

---

[123] *See* Alltel *700 MHz Further Notice* Comments at 3; Cellular South *700 MHz Further Notice* Comments at 8-9, 10; Embarq *700 MHz Further Notice* Comments at 6.

[124] *See* Cellular South *700 MHz Further Notice* Comments at 9; Centennial *700 MHz Further Notice* Comments at 6-7.

[125] *See* Centennial *700 MHz Further Notice* Comments at 6.

[126] 4G Coalition *700 MHz Further Notice* Comments at 8-9.

[127] *See* Google *700 MHz Further Notice* Comments at 2, 7. The 4G Coalition and Google support licensing Proposal 3's smaller 10-megahertz block (comprised of paired 5-megahertz blocks) over MEAs. *See* 4G Coalition *700 MHz Further Notice* Comments at 8-9; Google *700 MHz Further Notice* Comments at 7.

[128] *See* PISC *700 MHz Further Notice* Comments at 35-36.

[129] *Id.* at 36.

[130] *See* Verizon Wireless *700 MHz Further Notice* Comments at 10-11, 12-14. Verizon Wireless also comments that these REAGs should be paired, and notes that the role which the Commission has stated REAGs have in promoting advanced services. *Id.* at 12.

[131] *See* AT&T *700 MHz Further Notice* Comments at 4-7.

[132] *See, e.g.*, AT&T *700 MHz Further Notice* Comments at 3-4; Cellular South *700 MHz Further Notice* Comments at 9-11; Leap *700 MHz Further Notice* Comments at 3; MetroPCS *700 MHz Further Notice* Comments at 13; RCA *700 MHz Further Notice* Comments at 11-12; Union *700 MHz Further Notice* Comments at 3-5; *see also* U.S. Cellular *700 MHz Further Notice* Reply Comments at 5 (supporting lower band proposal based on the proposal's widespread support).

[133] RCA *700 MHz Further Notice* Comments at 12; *see also* Cellular South *700 MHz Further Notice* Comments at 10.

[134] *See* 700 MHz Independents *700 MHz Further Notice* Comments at 3-4; Aloha *700 MHz Further Notice* Comments at 2-3; Blooston *700 MHz Further Notice* Comments at 3; Cellular South *700 MHz Further Notice* Comments at 10; Dobson *700 MHz Further Notice* Comments at 3; NTCA *700 MHz Further Notice* Comments at 3- (continued....)

potential for aggregation opportunities by having a CMA license located adjacent to the C Block spectrum which already has been licensed over CMAs,[135] with the 700 MHz Independents and RTG commenting that the aggregation potential with these adjacent CMA spectrum blocks is important because of certain technical issues arising with respect to operations in C Block.[136] As for the Lower 700 MHz Band E Block, Cellular South and RCA agree with our proposal to license the block over REAGs.[137] On the other hand, Aloha requests that this E Block be licensed over EAs, claiming that the proposed geographic service area is too large and too expensive for its projected limited use.[138] Cyren Call suggests that, if Frontline's proposal is adopted for the Upper 700 MHz Band, two spectrum blocks in the Upper 700 MHz Band should be licensed over CMAs and EAs.[139]

59. In response to our inquiry in the *700 MHz Further Notice* whether to maintain a larger spectrum block in the 700 MHz Band, the record reflects disparate views. Several commenters support the adoption of a larger spectrum block and argue against greater use of smaller spectrum blocks. For example, PISC states that "the push by SpectrumCo and large wireless carriers for smaller licenses appears designed to bolster their ability to block potential competitors from developing powerful national networks that would challenge their existing broadband and wireless offerings."[140] 4G Coalition asserts that the Commission is already providing smaller blocks in the overall band plan for the Lower and Upper 700 MHz Bands, and recommends inclusion of at least one large block in the Upper 700 MHz Band, which it claims would offer benefits for advanced broadband service.[141] Google comments that a large spectrum block would provide greater flexibility to technologies with adjustable signal bands, such as WiMax, and additional capacity for technologies with fixed waveforms, like EvDO.[142] Verizon Wireless contends that wireless broadband deployment and emerging 4G technologies require a large spectrum block to achieve the fastest data rates.[143] Ericsson proposes that the Commission maintain a 20-megahertz block.[144]

60. Other commenters, however, support a band plan that would eliminate the large spectrum block from the existing band plan and provide for two smaller spectrum blocks.[145] For example, Cellular

(Continued from previous page)
4; RTG *700 MHz Further Notice* Comments at 3; RCA *700 MHz Further Notice* Comments at 11-12; WISPA *700 MHz Further Notice* Comments at 4-5.

[135] *See* 700 MHz Independents *700 MHz Further Notice* Comments at 4-5; Aloha *700 MHz Further Notice* Comments at 2-3; Cellular South *700 MHz Further Notice* Comments at 10; Union Telephone *700 MHz Further Notice* Comments at 4.

[136] *See* 700 MHz Independents *700 MHz Further Notice* Comments at 5; RTG *700 MHz Further Notice* Comments at 4-5.

[137] *See* Cellular South *700 MHz Further Notice* Comments at 10-11; RCA *700 MHz Further Notice* Comments at 11-12.

[138] *See* Aloha *700 MHz Further Notice* Comments at 3; Aloha *700 MHz Further Notice* Reply Comments at 2.

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

[140] *See* PISC *700 MHz Further Notice* Comments at 36; *see also* "*Ex Parte* Reply Comments of the *Ad Hoc* Public Interest Spectrum Coalition," WT Docket No. 06-150 (filed July 6, 2007)(arguing that increasing the number of licenses increases the ability of incumbents to block new entrants).

[141] *See* 4G Coalition *700 MHz Further Notice* Comments at 2-4, 6 (urging the adoption of a 22-megahertz block); CCIA *700 MHz Further Notice* Comments at 3.

[142] *See* Google *700 MHz Further Notice* Comments at 7 (discussing 22-megahertz block).

[143] *See* Verizon Wireless *700 MHz Further Notice* Comments at 11 (commenting on the need for at least a 20-megahertz block to meet such data rates), 16 (commenting that 22-megahertz of paired spectrum supports broadband deployment).

[144] *See* Ericsson *700 MHz Further Notice* Comments at 24. Ericsson also comments that a 22-megahertz block is unnecessarily large. *Id.* at 2.

[145] *See* 700 MHz Independents *700 MHz Further Notice* Comments at 6-7; Aloha *700 MHz Further Notice* Comments at 3; Blooston *700 MHz Further Notice* Comments at 4; Cellular South *700 MHz Further Notice* (continued....)

South claims that smaller blocks will enable new entrants to obtain licenses and that a single large block restricts competition for the spectrum.[146] RCA comments that while large entities may have an interest in a larger block, offering it on such a basis would be "conspicuously unfair"[147] and MetroPCS claims that a 22-megahertz REAG block would be a "set-aside for larger auction participants."[148] SpectrumCo claims that dividing a larger block would maximize flexibility and "would provide bidders with opportunities to customize their service areas, expand into new markets, and/or strategically supplement spectrum holdings in existing geographic areas."[149]

61. Google recommends that the Commission designate the 6-megahertz unpaired spectrum block in the Lower 700 MHz Band E Block as suitable, primarily or exclusively for the deployment of broadband communications platforms. Specifically, Google recommends that this block should be utilized for interactive, two-way broadband services, connected to the public internet, and used to support innovative software-based applications, services, and devices. Google contends that adopting such a service requirement will help maximize the commercial utility of this spectrum band. In particular, Google alleges that the unpaired E Block in the Lower 700 MHz Band "appears to lack any significant immediate commercial value, due to the relatively limited bandwidth available and its unpaired nature."[150] Google comments that the Commission has supported ubiquitous broadband deployment as one of the nation's top priorities.[151] On the other hand, a number of commenters opposed Google's proposal regarding E Block in the Lower 700 MHz Band. For example: AT&T alleges that Google's proposal is counter to the principles of technical and service neutrality and licensee flexibility; CTIA claims that Google's proposal would adversely affect competition in mobile services generally; Qualcomm comments that Google's proposed standard is too vague, is contrary to the flexible allocation adopted for the Lower 700 MHz Band, and that there is commercial value for this spectrum; RTG opposes limiting the use of any spectrum to the services proposed by Google; and Verizon Wireless comments that the proposal should be rejected in light of the Commission's longstanding policy for maximum licensee flexibility.[152]

(ii) Discussion

62. In the *700 MHz Report and Order*, we determined that a balanced mix of geographic service area licenses – CMAs, EAs, and REAGs – would be appropriate for the commercial 700 MHz Band licenses that will be auctioned.[153] We reaffirm that determination for all of this commercial

(Continued from previous page)
Comments at 11-19; Centennial *700 MHz Further Notice* Comments at 3; Leap *700 MHz Further Notice* Comments at 3-4; Leap *700 MHz Further Notice* Reply Comments at 2-3; MetroPCS *700 MHz Further Notice* Comments at 24-26; MetroPCS *700 MHz Further Notice* Reply Comments at 4-9; SpectrumCo *700 MHz Further Notice* Comments at 9-10; Sprint Nextel *700 MHz Further Notice* Comments at 2-5; T-Mobile *700 MHz Further Notice* Reply Comments at 10-11; Union *700 MHz Further Notice* Comments at 5; U.S. Cellular *700 MHz Further Notice* Comments at 8; AT&T *700 MHz Further Notice* Comments at 4-5.

[146] *See* Cellular South *700 MHz Further Notice* Comments at 11-12.

[147] *See* RCA *700 MHz Further Notice* Comments at 13.

[148] *See* MetroPCS *700 MHz Further Notice* Comments at 25-26.

[149] *See* SpectrumCo *700 MHz Further Notice* Comments at 2, 15.

[150] *Google Ex Parte Letter* at 4-5. WTB sought comment on Google's proposal in its ex parte letter, including its position regarding the E Block of the Lower 700 MHz Band. *See Google 700 MHz Service Rules PN* at 2. Elements of Google's proposal, other than those regarding its proposal relating to E Block of the Lower 700 MHz Band, are addressed elsewhere.

[151] *See* Google *Google Ex Parte* Reply Comments at 7-9.

[152] *See* AT&T *Google Ex Parte* Comments at 9-10; CTIA *Google Ex Parte* Comments at 3; Qualcomm *Google Ex Parte* Comments at iii, 2-6; RTG *Google Ex Parte* Comments at 3; Verizon Wireless *Google Ex Parte* Comments at 2, 7; *see also* MetroPCS *Google Ex Parte* Comments at 3-4 & n.9 (commenting on inconsistencies in Google's position); Qualcomm *Google Ex Parte* Reply Comments at 2-4 (arguing that there is no legitimate reason to prohibit certain uses of the E Block and allow only other particular uses).

[153] *See 700 MHz Report and Order*, 22 FCC Rcd at 8082-86 ¶¶ 42-45.

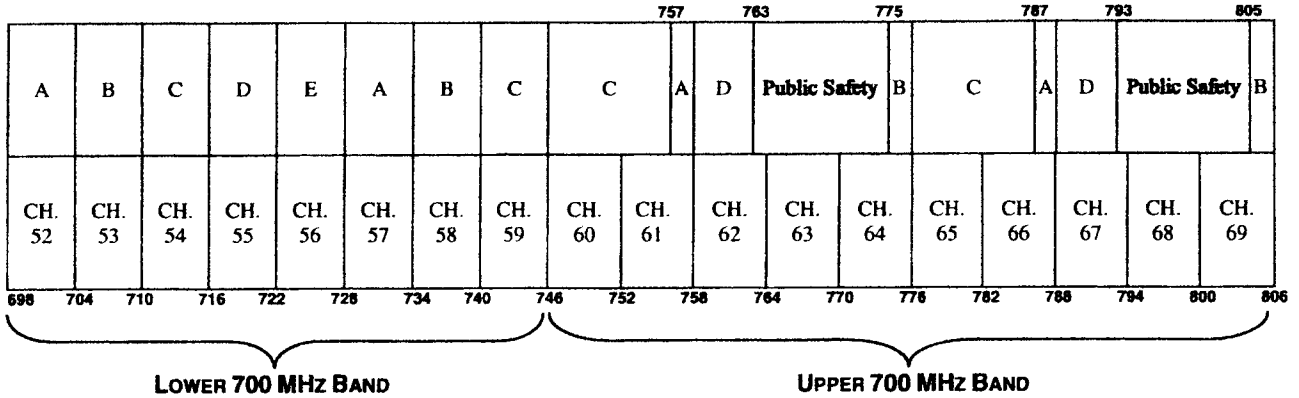
spectrum except for that associated with the 10-megahertz commercial license (comprised of paired 5-megahertz blocks), which will be auctioned on a nationwide basis for use as part of the 700 MHz Public/Private Partnership with the Public Safety Broadband Licensee. We further determine that a mix of spectrum block sizes, including one large 22-megahertz block (comprised of paired 11-megahertz blocks), is appropriate for the 700 MHz Band licenses that remain to be auctioned.

63. In evaluating the appropriate balance of license areas and block sizes in this revised band plan, we consider the 700 MHz Band as a whole, including both the commercial spectrum that has not yet been auctioned and the previously auctioned spectrum. Recent statutory and regulatory changes have served to harmonize these spectrum bands and warrant our consideration of the 700 MHz Band spectrum as a whole. The DTV Act provides a uniform transition date for the entire spectrum in both the Lower and Upper 700 MHz Bands, which will make all of the spectrum nationwide available simultaneously. In addition, in the *700 MHz Report and Order*, we revised the power limit requirements for the spectrum in the Lower 700 MHz Band that has not yet been auctioned to make them substantially similar to those applicable to the Upper 700 MHz Band. Finally, the Commission's secondary markets rules will allow auction winners to aggregate previously auctioned spectrum with spectrum they win in the upcoming auction.

64. In determining the specific mix of geographic licensing areas and block sizes for the spectrum to be auctioned, we seek to achieve the kind of reasonable balance that we achieved when adopting a mix of licenses and block sizes in the band plan for the AWS-1 spectrum. The 700 MHz Band spectrum, like the AWS-1 spectrum, is particularly well-suited for wireless broadband services. Given that these bands are likely to be used for similar services, our goals here are similar to those for the AWS-1 Band. In particular, our goals for the 700 MHz Band are to promote dissemination of licenses among a wide variety of applicants, accommodate the competing need for both large and small licensing areas, meet the various needs expressed by potential entrants seeking access to spectrum and incumbents seeking additional spectrum, and provide for large spectrum blocks that can facilitate broadband deployment in the band.

65. To achieve these goals, we will license three commercial blocks of paired spectrum – one 12-megahertz block (comprised of paired 6-megahertz blocks) licensed on a CMA basis, one 12-megahertz block (comprised of paired 6-megahertz blocks) on an EA basis, and one 22-megahertz block (comprised of paired 11-megahertz blocks) on an REAG basis – as well as one 6-megahertz block of unpaired spectrum on an EA basis. The following figure shows this new band plan:

FIGURE 8: 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.

66. With respect to the mix of geographic service area licenses under our revised band plan for the 70 megahertz of commercial spectrum in the 700 MHz Band that is neither Guard Band spectrum nor spectrum designated for the Public/Private Partnership, a total of 24 megahertz will be provided on a CMA basis (including 12 megahertz already auctioned), 18 megahertz on an EA basis, and 28 megahertz on an REAG/EAG basis (including 6 megahertz already auctioned on an EAG basis, which are large licenses similar to REAGs).

67. This mix achieves a balance among different geographic area sizes that is similar to that provided in the AWS-1 band plan. The following figure compares the amount of spectrum for CMAs, EAs, and EAGs/REAGs in the AWS-1 Band to that for the revised 700 MHz Band, excluding the Guard Band spectrum and the spectrum designated for use as part of the 700 MHz Public/Private Partnership.

FIGURE 9: COMPARISON OF AWS AND 700 MHZ SPECTRUM

	AWS			Unauctioned and Auctioned 700 MHz Band			Unauctioned 700 MHz Band	
	Spectrum	Percent		Spectrum	Percent		Spectrum	Percent
	(megahertz)			(megahertz)			(megahertz)	
Analysis of Paired Spectrum Only								
CMA	20	22.2 %		24	41.4 %		12	26.1 %
EA	30	33.3 %		12	20.7 %		12	26.1 %
REAG/EAG	40	44.4 %		22	37.9 %		22	47.8 %
Total	90			58			46	
Analysis of Paired and Unpaired Spectrum								
CMA	20	22.2 %		24	34.3 %		12	23.1 %
EA	30	33.3 %		18	25.7 %		18	34.6 %
REAG/EAG	40	44.4 %		28	40.0 %		22	42.3 %
Total	90			70			52	

Analysis does not include 10 megahertz for the Upper 700 MHz D Block License and 4 megahertz for Guard Bands.

68. As with AWS-1, the majority of the spectrum in the 700 MHz Band will be licensed by CMAs or EAs. Specifically, in the AWS-1 Band, 55.5 percent of the entire spectrum was licensed by CMAs or EAs (22.2 percent and 33.3 percent, respectively), while for the 700 MHz Band, 60 percent will be licensed by CMAs or EAs (34.3 and 25.7 percent). In addition, a substantial portion of the 700 MHz Band will be licensed by large service areas (REAGs/EAGs). Whereas 44.4 percent of the AWS-1 Band was licensed by REAGs, 40 percent of the 700 MHz Band will be licensed by either REAGs or EAGs.

69. Regarding the size of available spectrum blocks, we provide for one large, 22-megahertz spectrum block (comprised of paired 11-megahertz blocks) in the 700 MHz Band to promote more innovative and efficient broadband deployment in this band. As the Commission found in the AWS-1 proceeding, 20-megahertz (or larger) spectrum blocks enable a broader range of broadband services (including Internet access at faster speeds), accommodate future higher data rates, and provide operators with additional capacity and, importantly, flexibility.[154] Based on that finding, in the AWS-1 band plan, three of the five spectrum blocks (66% of the total available spectrum) were made available in large 20-megahertz blocks.[155] Although we are departing from the AWS-1 band plan by licensing most spectrum blocks in the 700 MHz Band in smaller sizes,[156] we conclude that licensing one of the 700 MHz Band

[154] *AWS-1 Order on Reconsideration*, 20 FCC Rcd at 14066-67 ¶ 15 (larger 20-megahertz blocks should enable a broader range of broadband services, and accommodate future higher data rates); *see also* 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, 25178 ¶ 44 (2003) (*AWS-1 Report and Order*).

[155] *AWS-1 Order on Reconsideration*, 20 FCC Rcd at 14066-67¶ 15, 14068-69 ¶ 19-20. In the AWS-1 band plan, three of the six license blocks, involving two-thirds of the band (totaling 60 megahertz) were licensed by large, 20-megahertz blocks. *Id.* at 14069 ¶ 20.

[156] We depart from the AWS-1 band plan by licensing most of the 700 MHz Band over smaller blocks as part of our effort to balance several competing goals in the band plan. We note in particular our decision to assign the Upper 700 MHz Band's D Block over 10 megahertz (comprised of paired 5 megahertz blocks) as part of a unique Public/Private Partnership. In addition, we facilitate access to spectrum by smaller service providers by maintaining (continued....)

spectrum blocks as a 22-megahertz spectrum block enhances broadband deployment and stimulates new entry.

70. We discuss in more detail below the revised band plan, including our decisions regarding the specific placement of the CMA, EA, and REAG licenses and the size of the spectrum blocks. We revise the size and location of the spectrum blocks in the Upper 700 MHz Band, consistent with our decisions to change the spectral location of the Guard Bands and make an additional 2 megahertz of commercial spectrum available for auction based on our reducing the size of the Guard Band B Block, and designate a 10-megahertz spectrum block (comprised of two 5-megahertz paired blocks) adjacent to the Public Safety spectrum as part of the 700 MHz Public/Private Partnership.

71. *CMAs in a 12-Megahertz Spectrum Block (Comprised of Paired 6-Megahertz Blocks) in the Lower 700 MHz Band B Block.* We will license one additional spectrum block in the 700 MHz Band on a CMA basis, to be located in the B Block of the Lower 700 MHz Band immediately adjacent to the existing CMA-based licenses. As reflected in the record, there is demand by small and rural providers for smaller areas such as CMAs.[157] Providing for an additional 700 MHz Band spectrum block licensed on a CMA basis may allow small and rural providers to obtain license areas that meet their needs while avoiding the transaction costs associated with obtaining access to spectrum in the secondary market, costs that are incurred when these small providers must arrange the terms by which another licensee grants access to its spectrum by means of partitioning, disaggregation, or spectrum leasing.[158] Accordingly, we find that additional small area licenses based on CMAs should be available in the 700 MHz Band to allow smaller and more rural bidders to match their particular needs to the licenses available at auction and avoid potential transaction costs.[159] This approach is consistent with the Commission's objectives to

(Continued from previous page)
the size of all the spectrum blocks in the Lower 700 MHz Band. This approach to the Lower 700 MHz Band is consistent with our proposal in the *700 MHz Further Notice*, 22 FCC Rcd at 8130 ¶ 178 which was supported by several parties in the record, *see* TCA *700 MHz Further Notice* Reply Comments at 2-4; Leap *700 MHz Further Notice* Comments at 3; Cellular South *700 MHz Further Notice* Reply Comments at 6.

[157] *See* 700 MHz Independents *700 MHz Further Notice* Comments at 2; Blooston *700 MHz Further Notice* Comments at 2-4; Centennial *700 MHz Further Notice* Comments at 3, 5; C&W *700 MHz Commercial Services Notice* Comments at 3; Core *700 MHz Commercial Services Notice* Reply Comments at 4; Frontier *700 MHz Further Notice* Comments at 2-4, 6; Embarq *700 MHz Further Notice* Comments at 8; NTCA *700 MHz Further Notice* Comments at 3-5; RCA *700 MHz Further Notice* Comments at 2; RTG *700 MHz Further Notice* Reply Comments at 4-7; WISPA *700 MHz Further Notice* Comments at 5; Union *700 MHz Further Notice* Reply Comments at 7; USA Broadband *700 MHz Further Notice* Reply Comments at 2; *see also* Vermont et al. *700 MHz Further Notice* Reply Comments at 5-6. We note that McBride asks that we license all of the spectrum over CMAs, but we already have decided in the *700 MHz Report and Order* to license the spectrum using a mix of geographic areas. *700 MHz Report and Order*, 22 FCC Rcd at 8082 ¶ 42. We also note that Frontier requests that we consider licensing spectrum over a geographic area smaller than CMAs, but we have already declined to adopt service areas smaller than CMAs. *Id.* at 8085 ¶ 46.

[158] *See* Union *700 MHz Commercial Services Notice* Comments at 3 (stating that the "process of aggregating, disaggregating, and partitioning add significant costs and complexity, and can delay initiation of service, especially for small rural carriers"); U.S. Cellular *700 MHz Commercial Services Notice* Comments at 9; *see also* Howard/Javed Comments at 12 ; 700 MHz Independents *700 MHz Further Notice* Comments at 2 (commenting that due to factors including transaction costs, large companies generally have been uninterested and unwilling to partition or lease the rural portions of their license areas); Corr *700 MHz Commercial Services Notice* Comments at 2 (partitioning and disaggregation has not worked to break up larger pieces of spectrum); Consumer Federation of America, *et al. 700 MHz Commercial Services Notice* Comments at 5 (prospective new entrants often are at mercy in the secondary market of license holders); Sprint Nextel *700 MHz Further Notice* Comments at 6 (stating that bidders interested in smaller geographic license areas would have to convince larger area license winner to partition, and then incur the "often quite substantial transaction costs").

[159] *See* 700 MHz Independents *700 MHz Further Notice* Comments at 5; U.S. Cellular *700 MHz Commercial Services Notice* Reply Comments at 4; Blooston *700 MHz Commercial Services Notice* Comments at 2; RTG *700 MHz Commercial Services Notice* Comments at 5; Howard/Javed *700 MHz Commercial Services Notice* Comments at 10. In the AWS-1 proceeding, the Commission stated that "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 (continued....)

promote economic opportunity and competition, as well as the dissemination of licenses to a wide variety of applicants, including small and rural providers.[160]

72. We find that the 12-megahertz B Block (comprised of paired 6-megahertz blocks) in the Lower 700 MHz Band is the appropriate spectrum band for the CMA licenses. As discussed above, several commenters specifically recommend that the B Block be assigned using CMAs.[161] By providing for CMAs in the Lower 700 MHz Band B Block, licensees will be afforded the opportunity to combine B Block licenses with licenses in the adjacent C Block, which already have been licensed over CMAs.[162] The Commission has favored placing spectrum blocks with the same type of geographic area licenses adjacent to one another because this approach enables licensees to more easily aggregate the adjacent channel licenses, whether at auction or in the secondary market.[163] While we are not creating a larger spectrum block for CMAs (*e.g.*, a 20-megahertz block), as requested by some parties,[164] we do not find that this step is necessary because converting the B Block to CMA licensing creates opportunities for small or rural service providers to create a 24-megahertz CMA block in any given geographic area by aggregating spectrum in the revised B Block and the existing C Block. As a result, small and rural bidders may acquire rights to a large amount of contiguous spectrum over small geographic service area, which provides the potential for more flexibility in broadband services to be offered and technologies to be deployed. These opportunities are particularly important because the boundaries of CMA-based licenses do not match the boundaries of licenses based on EAs, EAGs, or REAGs, and therefore may be most usefully aggregated with other CMA licenses.

(Continued from previous page) ———————————
areas provide entry opportunities for smaller carriers, new entrants, and rural telephone companies." *AWS-1 Order on Reconsideration*, 20 FCC Rcd at 14066 ¶ 14.

[160] *See Lower 700 MHz Report and Order*, 17 FCC Rcd at 1061 ¶ 95 (*quoting* 47 U.S.C. § 309(j)(3)(B)). The Commission also is to "prescribe area designations and bandwidth assignments that promote ... economic opportunity for a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women." 47 U.S.C. 309(j)(4)(C).

[161] *See, e.g.*, 700 MHz Independents *700 MHz Further Notice* Comments at 2; Aloha *700 MHz Further Notice* Comments at 3-4; Blooston *700 MHz Further Notice* Comments at 2-3; Cellular South *700 MHz Further Notice* Comments at 10; Dobson *700 MHz Further Notice* Comments at 3; NTCA *700 MHz Further Notice* Comments at 3-4; RTG *700 MHz Further Notice* Comments at 3; RCA *700 MHz Further Notice* Comments at 11; WISPA *700 MHz Further Notice* Comments at 4; MilkyWay *700 MHz Commercial Services Notice* Comments at 1; ; MetroPCS *700 MHz Further Notice* Comments at 15; Leap *700 MHz Further Notice* Comments at 3; Corr *700 MHz Commercial Services Notice* Reply Comments at 4; *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 Lower Band Block B and Upper Band Block C, totaling 22 megahertz of spectrum).

[162] *See* Corr *700 MHz Commercial Services* Reply Comments at 4; RTG *700 MHz Further Notice* Comments at 4; 700 MHz Independents *700 MHz Further Notice* Comments at 4-5; Cellular South *700 MHz Further Notice* Comments at 10; Union *700 MHz Further Notice* Comments at 4; USA Broadband *700 MHz Further Notice* Comments at 2.

[163] *AWS-1 Order on Reconsideration*, 20 FCC Rcd at 14067 ¶ 20. We recognize that our decision may alter the ability of licensees in Blocks A and B of the Lower 700 MHz Band to aggregate those licenses since they will be licensed using EAs and CMAs. However, our overall decision respecting the size of geographic service areas and spectrum blocks provides opportunities for licensees to obtain wider bandwidth, including through the potential aggregation of Blocks B and C of the Lower 700 MHz Band.

[164] *See* Polar *700 MHz Commercial Services Notice* Comments at 1 (arguing that a 20 megahertz block should be auctioned over CMAs); *see also* NTCA *700 MHz Commercial Services Notice* Comments at 2, 6-7 (prior to supporting Balanced Consensus Plan, arguing that a 20 megahertz block should be auctioned over CMAs); Dobson *700 MHz Commercial Services Notice* Comments at 4-5 (prior to supporting Balanced Consensus Plan, arguing that two CMA blocks should be auctioned, one comprised of 20 megahertz and one comprised of 10 megahertz).

73. For these reasons, we do not adopt EAs for the B Block.[165] Providing for an additional CMA spectrum block in the Lower Band B Block comports with the record and will help us achieve a balanced mix of geographic service area sizes in this band that is similar to the Commission's approach to the AWS-1 spectrum. As part of this balance, and as discussed below, we also establish two EA license blocks in the 700 MHz Band in order to address concerns raised by those parties requesting EA licenses.

74. *REAGs in a 22-Megahertz Spectrum Block (Comprised of Paired 11-Megahertz Blocks) in the Upper 700 MHz Band C Block.* In addition to making licenses available by a variety of geographic areas sizes, including CMAs, we also find that we need to make available at least one large spectrum block. Having determined that we will provide for a 12-megahertz CMA block in the Lower 700 MHz B Block and a 10-megahertz spectrum block adjacent to the Public Safety spectrum, we conclude that a 22-megahertz block of paired spectrum should be located in the C Block in the Upper 700 MHz Band and licensed on a REAG basis. This approach is consistent with our goal of promoting broadband services in this band, and will provide important benefits to potential users of this spectrum that may need large spectrum blocks as well as large geographic areas. Because we provide for package bidding for licenses in this spectrum block, as discussed below, this large REAG block will be particularly important for potential new entrants and other bidders that seek to provide a nationwide service.[166]

75. With regard to the size of spectrum blocks, this C Block will be the only spectrum block larger than 12 megahertz in the 700 MHz Band.[167] The inclusion of this large block results in a greater mix of licenses in the 700 MHz Band and gives prospective licensees an additional choice in acquiring the amount of spectrum consistent with the technologies and spectrum architecture they may plan to deploy. A large spectrum block makes available licenses of varying bandwidth and provides for the 700 MHz Band the sort of reasonable balance that we achieved for AWS-1 spectrum.[168] As the Commission previously determined for AWS-1 spectrum, which is similarly useful for providing wireless broadband service,[169] larger spectrum blocks offer important benefits, including providing sufficient spectrum to support the deployment of new and emerging competitors[170] and the opportunity to achieve high data transmission rates for large numbers of customers.[171] Large blocks also offer benefits with respect to economies of scale, providing an opportunity for licensees to develop new technologies and services, and additional flexibility.[172]

---

[165] *See* Navajo Nation *700 MHz Commercial Services Notice* Comments at 1.

[166] As we discuss elsewhere in this order, this 22-megahertz block will be revised to provide for two paired blocks of spectrum in the event certain provisions relating to the aggregate reserve price for that block are not met.

[167] For the AWS-1 spectrum, three of the six licenses were of wider bandwidth, *i.e.*, 20 megahertz (comprised of two 10-megahertz paired blocks). *See AWS-1 Order on Reconsideration*, 20 FCC Rcd at 14069 ¶ 20.

[168] However, as we discuss elsewhere, with respect to sizes of spectrum blocks, we are departing from the AWS-1 band plan by licensing more spectrum blocks in the 700 MHz Band in smaller sizes.

[169] *See AWS-1 Report and Order*, 18 FCC Rcd at 25178 ¶ 44; *AWS-1 Order on Reconsideration*, 20 FCC Rcd at 14066-67 ¶ 15.

[170] *See* CTIA *700 MHz Commercial Services Notice* Comments at 6-7 (addressing a 20-megahertz block); CCIA *700 MHz Further Notice Comments* at 3 (commenting that a larger block will improve chances for creating a new nationwide wireless broadband network).

[171] *See* Qualcomm *700 MHz Commercial Services* Comments at 11-12, 18; Motorola *700 MHz Commercial Services* Comments at i, 3, 5-6; Verizon Wireless *700 MHz Further Notice* Comments at 11-12 (stating that 4G services will require large blocks to achieve fastest data rates).

[172] *See* CCIA *700 MHz Further Notice* Comments at 3 (stating that a new nationwide wireless broadband network resulting from use of large block could take advantage of economies of scale); Verizon Wireless *700 MHz Further Notice* Comments at 7-8 (commenting that a larger spectrum block "will help to ensure the near-term deployment of next generation wireless broadband networks, providing the best opportunity for the United States to lead the world in 4G wireless development."); 4G *700 MHz Further Notice* Comments at 2-4 (technologies with adjustable signal bands can benefit from larger blocks, as can technologies with fixed waveforms); Google *700 MHz Further Notice* Comments at 7 (commenting that a larger block will provide greater flexibility for some technologies, and provide (continued....)

76. Licensing a spectrum block of this size in the 700 MHz Band could also enable the development of technologies that will produce bit rates far beyond those available with today's technologies.[173] Although existing 3G technologies, such as CDMA-2000 and Wideband CDMA, can readily be accommodated on blocks of 2.5-megahertz (paired 1.25-megahertz blocks) and 10-megahertz (paired 5-megahertz blocks),[174] respectively, we anticipate that Fourth Generation (4G) technologies will be able to take advantage of wider spectrum blocks, such as the 22-megahertz block we adopt in this Second Report and Order, to produce bit rates that are a significant increase beyond those currently achievable with today's technologies.[175] By creating a larger spectrum block in the 700 MHz Band, we will enable the provision of many services, including VoIP, broadband internet access, and streaming audio and video programming, to be offered at higher speeds, to a greater number of subscribers, and with more advanced capabilities than could be offered on smaller-sized spectrum blocks in the band.

77. These capabilities are especially important for new entrants that want to compete directly with wireline broadband alternatives, which are increasingly moving to fiber networks capable of very high data rates. While many planned 4G technologies may offer narrow channel bandwidths for migration purposes, a 20-megahertz block (comprised of paired 10-megahertz blocks) is the minimum size needed to accommodate anticipated higher data rates. Based on the Third Generation Partnership Project 2 (3GPP2) standards, 1x-EVDO Rev. C, or UMB is expected to support 40 Mbps data rate on the down link.[176] Based on the Third Generation Partnership Project (3GPP) Long Term Evolution (LTE) technology, down link peak data rates up to 50 Mbps in a 10-megahertz paired channel are anticipated.[177] In addition, the IEEE 802.16m project targets a minimum of 65 Mbps in a 10-megahertz paired channel.[178] None of these standards groups expect 4G technologies data rates to reach these anticipated, or higher peak data rates with less than a 20-megahertz block (paired 10-megahertz blocks). Thus, a 22-megahertz spectrum block, or effectively 20 megahertz (2 x 10 MHz), will enable licensees to deploy Fourth Generation (4G) wireless technologies designed to compete with high-capacity wireline offerings.

78. Providing for a large spectrum block also eliminates the need for internal guard bands

(Continued from previous page)

greater capacity for others); Motorola *700 MHz Commercial Services Notice* Comments at 5 (commenting that wider blocks afford licensees the flexibility to deploy advanced broadband services that operate using wider channels); Qualcomm *700 MHz Commercial Services Notice* Comments at 18 (commenting that a larger spectrum block will facilitate the delivery of the most technically advanced wireless services in this and the next decade); *see also* DIRECTV/EchoStar *700 MHz Commercial Services Notice* Comments at 12 (commenting that a block of 20-megahertz may not be enough for the services they envision; technology now under development would use larger, contiguous spectrum blocks).

[173] *See* Verizon Wireless *700 MHz Further Notice* Comments at 11-12 ("wireless broadband deployment requires more contiguous spectrum, and emerging 4G technologies require 20 megahertz of spectrum to achieve the fastest possible data rates").

[174] Certain commenters argue that paired 5 megahertz blocks provide sufficient capacity for some technologies, *see* Sprint Nextel *700 MHz Further Notice* Comments at 2, MetroPCS *Further Notice* Comments at 7-8, or that a 22-megahertz block is unnecessary and diverts the use of spectrum from frequency arrangements that could lower the technical requirements for the broadband technologies, *see* Ericsson *700 MHz Further Notice* Comments at 2.

[175] While 1x EVDO Rel 0 supports 2.4 Mbps over a 1.25 MHz channel, 1x EVDO Rev C or Ultra MobileBroadband (UMB) 4G technology is projected to support 40 Mbps data rate in a paired 10 MHz channel or approximately twice the spectral efficiency. *See* Qualcomm, "Qualcomm Introduces Complete solution for Ultra Mobile Broadband" at http://www.qualcomm.com/press/releases/2007/070327_complete_solution_ultra.html.

[176] *Id.* Note that 4G systems may utilize higher modulation schemes and MIMO systems to increase the data rate in both the down and up links.

[177] *See* 3G americas "Mobile Broadband, EDGE, HSPA & LTE" at http://www.3gamericas.org/PDFs/white_papers/2006_Rysavy_Data_Paper_FINAL_09.15.06.pdf at 55 (Sept. 2006).

[178] *See* IEEE 802.16 Broadband Wireless Access Working Group, "Draft IEEE 802.16m Requirements" at http://ieee802.org/16/tgm/docs/80216m-07_002r2.pdf. Using a minimum spectral efficiency of 6.5 bps/Hz will yield a minimum peak data rate of 65 Mbps in 10 MHz bandwidth (2 x 10 MHz).

that would otherwise be necessary if two smaller spectrum blocks were acquired by different licensees. The use of two, rather than four, internal guard bands, associated with a larger spectrum segment, allows increases in network capacity and higher data throughput rates even with existing technologies. For example, as we observed in the *700 MHz Commercial Services Notice*, if a large spectrum block were divided into two smaller blocks, the overall data throughput rates of 1xEV-DO transmissions would decrease by 14 percent.[179] This lower data throughput level would be caused by the need to place 0.625-megahertz guard bands at both ends of two separate blocks and the resulting loss of usable spectrum from having four, rather than two, internal guard bands.[180]

79. A larger 22-megahertz spectrum block (comprised of paired 11-megahertz blocks) also would provide flexibility for C Block licensees to address potential interference issues. Base stations in certain blocks in the Lower 700 MHz Band may operate at power levels up to 50 kW ERP if specific power flux density (PFD) limits are met.[181] The 22-megahertz Upper 700 MHz Band C Block would contain sufficient spectrum for a licensee to designate some spectrum as an internal guard band without unduly compromising data rates. Given the elimination of the Guard Band A Block previously at the bottom of the Upper 700 MHz Band, *i.e.*, at 746-747 MHz, this would permit Upper 700 MHz Band C Block licensees to address any potential concerns regarding interference from high power operations in the Lower 700 MHz C Block.[182] Accordingly, under our revised band plan, the 22-megahertz block not only provides flexibility for the deployment of 4G services and technologies, but offers Upper 700 MHz Band C Block licensees the flexibility to address any interference concerns they may have.

80. For all these reasons, we find that providing for one 22-megahertz spectrum block serves the public interest. We reject the band plan proposals of Northrop Grumman, AT&T, Cyren Call, and Frontline, because each of these proposals are premised on the adoption of a band plan with spectrum blocks that are significantly smaller than the new 22-megahertz C Block.[183] We also reject arguments that by adopting a single large block we are favoring a particular business model or potential bidder,[184] or limiting competition or participation in the auction.[185] Adopting a large spectrum block is part of our effort to provide an appropriate mix of licenses and is consistent with the positions of many other commenters. Many commenters responding to the *700 MHz Commercial Services Notice* supported the retention of a larger, *e.g.*, 20-megahertz block,[186] and the record has continued to demonstrate support for

---

[179] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9371 n.144.

[180] The CDMA Development Group reports that a single 1xEV-DO (Rev. 0) transmission on a 10-megahertz block produces a throughput of 4200-6090 kb/s, but two 1xEV-DO (Rev. 0) transmissions on two 5-megahertz blocks produce a throughput of only 3600-5220 kb/s. *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9371 n.144, citing Delivering Voice and Data: Comparing CDMA2000 and GSM/GPRS/EDGE/UMTS, CDMA Development Group, Dec. 2005 available at http://www.cdg.org/resources/white_papers/files/Capacity%20Dec%202005.pdf. The CDMA Development Group is a consortium comprised of CDMA service providers and manufacturers, application developers, and content providers.

[181] *See* 47 C.F.R. § 27.50(c).

[182] *See* Verizon Wireless *700 MHz Further Notice* Comments at 16-17 (stating that sufficient spectrum would be available with a 22-megahertz block to allow the commercial licensee to designate a potion of the spectrum as an internal guard band); *see also* 4G Coalition *700 MHz Further Notice* Comments at 3-4 (commenting on the potential for a buffer to account for potential interference).

[183] *See* Northrup Grumman *700 MHz Further Notice* Comments at 5-6; AT&T *700 MHz Further Notice* Comments at 4-5; Cyren Call *700 MHz Further Notice* Comments at 39; Frontline *700 MHz Further Notice* Comments at 51-54.

[184] *See* Cellular South *700 MHz Further Notice* Reply Comments at 7; MetroPCS *700 MHz Further Notice* Comments at 6, 26; SpectrumCo *700 MHz Further Notice* Comments at 13.

[185] *See, e.g.*, Cellular South *700 MHz Further Notice* Comments at 12, 15; Leap *700 MHz Further Notice* Reply Comments at 2-3; Sprint *700 MHz Further Notice* Comments at 3-5;

[186] *See, e.g.*, DIRECTV/EchoStar *700 MHz Commercial Services* Reply Comments at 7-8 (dividing the 20-megahertz D Block would artificially limit the types of services available in the 700 MHz Band); Motorola *700 MHz Commercial Services* Comments at 5 (generally recommending that commercial spectrum be licensed in wider (continued....)

a larger spectrum block in the band.[187]

81. With regard to the size of geographic service areas, the use of REAGs for the Upper 700 MHz Band C Block also will provide a number of benefits. First, as the Commission noted in adopting the AWS-1 band plan, the use of REAGs may meet the needs of carriers interested in creating a large regional or nationwide service area, which may be especially important for new entrants.[188] In particular, the use of large geographic service areas helps reduce transaction costs to both auction participants seeking to aggregate adjoining smaller geographic areas at auction and licensees seeking to consolidate such areas post auction. At the same time, REAGs are not so large as to preclude medium-sized providers from acquiring them at auction. For example, in the auction for AWS-1 licenses, MetroPCS acquired a REAG license for the highly populated Northeastern U.S., and Cricket acquired a REAG license for the Central U.S.

82. Whether used for providing service over a region or aggregated to provide nationwide service, because REAGs represent larger geographic areas, they help lower the costs of acquiring a larger customer base to achieve economies of scale.[189] To the extent licensees are better able to create large service areas and achieve economies of scale, they are better able to offer new and innovative services, including advanced broadband services. When combined with a large spectrum block, the use of REAGs may be even more effective in promoting these benefits, especially the provision of wireless broadband services.

83. *EAs in a 12-Megahertz Spectrum Block (Comprised of Paired 6-Megahertz Blocks) in the Lower 700 MHz Band A Block.* We adopt EAs as the geographic service area for licenses in Block A of the Lower 700 MHz Band, making 176 licenses available in this block. Similar to the Commission's approach for the AWS-1 spectrum, we find that there may be benefits to locating the EA block next to a CMA block, given that smaller providers can benefit from both CMA and EA blocks.[190] Because other portions of the 700 MHz Band are more appropriate for CMAs and REAGs, for reasons described above, we therefore will assign licenses based on EAs in the A Block of the Lower 700 MHz Band.

84. By adopting EAs in the 700 MHz Band, the Commission will provide potential applicants additional flexibility to implement their business plans by allowing these parties the option of bidding on a geographic license area based on a size that is between smaller CMAs and larger REAGs.[191] This benefit may occur in several ways. Bidders that want license areas smaller than REAGs but larger than CMAs will have an opportunity to acquire spectrum more appropriate for their business plans either by obtaining a single EA license or aggregating multiple EA licenses.[192] The transaction costs of such

(Continued from previous page)
spectrum blocks); Qualcomm *700 MHz Commercial Services* Comments at 18 (the D Block should remain intact because certain technologies require 20-megahertz bandwidth for fastest possible data transmission); Verizon Wireless *700 MHz Commercial Services* Reply Comments at 6-7 (asserts that a 20-megahertz paired license should be retained); CTIA *700 MHz Commercial Services* Comments at 6-7 (supports maintaining at least 20 megahertz of paired spectrum in the Upper 700 MHz Band D Block).

[187] *See* PISC *700 MHz Further Notice* Comments at 36; 4G Coalition *700 MHz Further Notice* Comments at 2-4, 6; Google *700 MHz Further Notice* Comments at 7; Verizon Wireless *700 MHz Further Notice* Comments at 11, 16; WCA *700 MHz Further Notice* Comments at 3.

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

[189] *Id.*

[190] *AWS-1 Order on Reconsideration*, 20 FCC Rcd at 14066 ¶ 14, 14068 ¶ 18.

[191] The Commission provided for a 10-megahertz block of EA licenses in the AWS auction, and the data from that auction demonstrates that 10-megahertz EA licenses provided an alternative to CMA licenses for small bidders. Of the 176 Block C licenses offered in Auction No. 66, 173 licenses were won (98.3 percent). Of those 173 licenses, 40 licenses (23.1 percent) were won by small businesses that were eligible for bidding credits in the auction. The Commission also provided for a 20-megahertz block of EA licenses in the AWS auction.

[192] *See* Union *700 MHz Commercial Services Notice* Comments at 3-4 (obtained EA and CMA licenses in Auction No. 66 due to affordability and ability to integrate); WCA *700 MHz Further Notice* Comments at 12 (commenting that EAs allow companies of various sizes and with a variety of business plans to compete for spectrum); Navajo (continued....)

aggregation should be lower than they are for licenses based on CMAs, which are smaller and thus require more licenses to cover the same geographic area. In addition, because EAs are building blocks for REAGs, EA licenses and REAG licenses can be combined to form larger service territories or larger spectrum holdings within certain geographic markets.[193] Existing service providers also can acquire EA license areas to supplement their existing spectrum capacity.[194] For these reasons, service providers will be afforded flexibility by the availability of EA licenses and REAG licenses in the 700 MHz Band,[195] and this flexibility will serve to advance opportunities for broadband deployment, including timely deployment to rural areas.

85. We find that the 12-megahertz A Block (comprised of paired 6-megahertz blocks) in the Lower 700 MHz Band is appropriate spectrum for EA licenses. This determination will create opportunities for a variety of bidders, including small and regional providers, to acquire licenses for small geographic service areas in the Lower 700 MHz Band.[196] Because the A Block is next to a second 12-megahertz block of spectrum, the B Block, that will be licensed using CMAs, small, regional, and rural providers will also have opportunities to combine these blocks.[197] This is consistent with the AWS-1 band plan, which also included a spectrum block of this size on an EA basis that was located immediately adjacent to a CMA block.[198] Also, licensees will have additional flexibility resulting from the opportunity to combine the spectrum in A Block with the adjacent unpaired E Block spectrum which, as we determine below, also will be licensed over EAs. We conclude that licensing the paired spectrum in Block A of the Lower 700 MHz band on an EA basis is in the public interest.

86. *EAs in a 6-Megahertz Unpaired Spectrum Block in the Lower 700 MHz Band E Block.* We also adopt EAs for the unpaired 6-megahertz E Block of the Lower 700 MHz Band. A second spectrum block comprised of EA licenses in the 700 MHz Band further enhances the mix of geographic sizes for licenses in the band. By providing for EA-licensing in this block, the licenses in the 700 MHz Band will consist of two licenses for each of the geographic areas we adopted in the *700 MHz Report and Order* – CMAs, EAs, and REAGs/EAGs. We find that such a balance of service areas in this spectrum is

(Continued from previous page)
Nation *700 MHz Commercial Services Notice* Comments at 1 (EA licensees will have more of a localized interest and allow for focusing on improving services in local area); *see also* SpectrumCo *700 MHz Further Notice* Comments at 10 (commenting that EAs accommodate the demand of bidders to acquire licenses with an array of service territory sizes and license configurations). In Auction No. 66, of 104 winning bidders, 70 (approximately 67%) won CMA licenses only, and 21 (approximately 20%) won only EA or combinations of EA and CMA licenses. *See* U.S. Cellular *700 MHz Commercial Services Notice* Comments at 6; U.S. Cellular *700 MHz Commercial Services Notice* Reply Comments at 8.

[193] *See AWS-1 Report and Order*, 18 FCC Rcd at 25176 ¶ 37; *see also* 47 C.F.R. § 27.6(a) (reflecting that REAGs and MEAs are based on EAs). This building block approach makes EA and REAGs, coupled with existing MEA licenses in the 700 MHz Band, preferable to the use of Metropolitan Trading Areas (MTAs) which we decline to adopt for this spectrum. We note that the Vermont Department of Public Service, *et al.* initially proposed the use of MTAs, but subsequently stated its support for our lower band proposal in the *700 MHz Further Notice* which does not include MTAs. *Compare* Vermont Department of Public Service, *et al. 700 MHz Commercial Services Notice* Comments at 4 (suggesting adoption of MTAs) *with* Vermont Department of Public Service, *et al. 700 MHz Further Notice* Comments at 5-6 (fully supporting the lower band proposal in the *700 MHz Further Notice*). We also note that the geographic areas we adopt in this Second Report and Order are consistent with the geographic areas used for AWS-1 licensing, while MTAs are not, which may further facilitate spectrum use.

[194] *See* SpectrumCo *700 MHz Further Notice* Comments at 10; WCA *700 MHz Further Notice* Comments at 12-13.

[195] *See AWS-1 Report and Order*, 18 FCC Rcd at 25176 ¶ 37 ("[T]he licensing areas we have chosen will allow licensees to make adjustments to suit their individual needs.").

[196] *See* WCA *700 MHz Further Notice* Comments at 12; Balanced Consensus Proposal Reply Comments, Attach.; SpectrumCo *700 MHz Further Notice* Comments at 10-11.

[197] We note, for example, that the AWS-1 band plan locates the CMA block immediately adjacent to an EA block. *See AWS-1 Order on Reconsideration*, 20 FCC Rcd at 14069 ¶ 20.

[198] *See* Auction of Advanced Wireless Services Licenses Closes; Winning Bidders Announced for Auction No. 66, Attach. A, *Public Notice*, 21 FCC Rcd 10521, 10529-84 (2006).

consistent with goals we discussed in the *700 MHz Report and Order*, including providing greater access to the spectrum by a variety of potential licensees.[199]

87. An EA service area for the E Block provides licensees with flexibility through the opportunity to combine spectrum. First, the E Block spectrum can be combined with the adjacent A Block spectrum which, as we discuss above, also will be licensed over EAs. Second, the E Block spectrum can be combined with the adjacent D Block spectrum, which has been assigned over EAGs, because EAs are building blocks for EAGs and thus provide the opportunity for licensees to combine spectrum and thus enhance flexibility.

88. Adopting EAs for the E Block also affords a wider range of potential licensees with the opportunity to take advantage of the power level that applies to the Lower 700 MHz Band. As we found in the *700 MHz Report and Order*, unpaired spectrum blocks provide an environment "conducive to the provision of broadcast-type operations," and we therefore decided to permit these unpaired blocks to operate at a power level of 50 kW ERP.[200] Although some commenters argue that E Block should be licensed over REAGs,[201] by adopting geographic areas smaller than REAGs for this block, we enable access to spectrum by a wider range of licensees who may want to take advantage of the power level for this spectrum but who do not require a license covering a large geographic area.[202]

89. *Additional Issues Raised Regarding the Commercial Spectrum in the 700 MHz Band.* As mentioned above, in response either to the *700 MHz Commercial Services Notice* or the *700 MHz Further Notice*, some parties have raised additional issues regarding the band plan for this commercial spectrum. These remaining issues are addressed below.

90. We reject the proposal of Howard/Javed respecting the delivery of fixed broadband to underserved areas.[203] These proposals are beyond the scope of both the *700 MHz Commercial Services Notice* and the *700 MHz Further Notice.*[204] In addition, our other actions in this Second Report and Order, including the provision of a mix of different size service areas with small area licenses, take significant steps toward enhancing the 700 MHz Band spectrum for a wide variety of uses, including fixed wireless broadband.

91. We also reject Howard/Javed's proposal to adjust the band plan to reflect 10- and 14-megahertz blocks in the A and B Blocks, respectively, of the Lower 700 MHz Band. There is record support to maintain the size and location of the spectrum blocks in the Lower 700 MHz Band.[205] As we explain elsewhere in this Second Report and Order, we have decided to maintain the B Block at 12 megahertz (comprised of 6-megahertz pairs) to provide licensees the opportunity to combine that block with the C Block, which has already been licensed and also is a 12 megahertz block (comprised of 6-

---

[199] *See 700 MHz Report and Order*, 22 FCC Rcd at 8082-85 ¶¶ 42-45.

[200] *Id.* at 8100 ¶ 95.

[201] *See* Cellular South *700 MHz Further Notice* Comments at 10-11; RCA *700 MHz Further Notice* Comments at 12.

[202] *See* Aloha *700 MHz Further Notice* Comments at 3 (commenting that EAs should be adopted for this block to accommodate small concerns interested in using the spectrum for one-way high powered transmissions).

[203] Howard/Javed propose that the Commission mandate that B Block of the Lower 700 MHz Band be used for delivering fixed wireless broadband to "underserved areas formally designated as such." *See* Howard/Javed *700 MHz Commercial Services* Comments at 38-40. Alternatively, they ask that separate procedures for MSAs, on the one hand, and RSAs, on the other hand, be employed respecting the use of fixed wireless broadband in those license areas, and that such procedures obligate B Block licensees to enter into agreements with parties proposing to use that spectrum to serve underserved areas. *Id.* at 40-41.

[204] *See generally 700 MHz Commercial Services Notice; 700 MHz Further Notice; see also* Howard/Javed *700 MHz Commercial Services* Comments at 38.

[205] *See* TCA *700 MHz Further Notice* Comments at 3-5; Leap *700 MHz Further Notice* Comments at 3; Cellular South *700 MHz Further Notice* Reply Comments at 6.

megahertz pairs) based on CMAs.[206] We also decline to adopt Howard/Javed's alternative suggestion that the B Block be made an asymmetrically paired 12-megahertz block with an unpaired E Block increased to 8 megahertz, to incorporate asymmetric download and upload capacity in broadband systems.[207] While Howard/Javed state that these proposals may be supported by the upcoming WiMax standards for this spectrum, these proposals are not necessary for the provision of WiMax in the 700 MHz Band. There also is little support in the record for such a band plan.

92. In addition, we will not adopt the recommendation of Tropos 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 spectrum environment."[208] We agree with CTIA and AT&T that Tropos's proposal is not consistent with the flexible use intended for this spectrum.[209] We also find that the technical rules are sufficient to permit the use of Tropos's technologies by a licensee in the 700 MHz Band. Finally, there is little support in the record for Tropos's proposal.

93. Corr requests that the C and D Blocks of the Upper 700 MHz Band be realigned to form two 15-megahertz blocks (each comprised of paired 7.5-megahertz blocks), with one licensed over EAGs and the other over REAGs.[210] Our decision to reconfigure the Upper 700 MHz Band in the manner adopted in this Second Report and Order meets the needs of a broad range of spectrum providers and the public. First, our decision to maintain a license with a wider bandwidth helps to provide a mix of license sizes throughout the entire 700 MHz Band so bidders will have options in acquiring licenses that best meet their requirements. Second, our decision to provide another license, with appropriate conditions, in conjunction with a public/private partnership to address broadband for public safety addresses important concerns relating to an interoperable public safety network.

94. We decline to adopt NextWave's proposed band plan, which is based on the use of unpaired spectrum blocks to allow for the development of TDD technologies.[211] Similarly, we will not adopt Navini's suggestion to allocate additional spectrum in the 700 MHz Band for mobile WiMAX deployment that is specially conducive to the use of TDD technology, *i.e.*, 15- or 30-megahertz spectrum blocks.[212] The 700 MHz Band already provides for two unpaired licenses, one of which remains to be

---

[206] We also determine elsewhere in this Second Report and Order that there are benefits associated with having a 12-megahertz A Block licensed on an EA basis next to the 12-megahertz B Block licensed on a CMA basis because small and regional providers will be able to combine these smaller area licenses with identical spectrum block sizes.

[207] Howard/Javed *700 MHz Commercial Services* Comments at 23.

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

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

[210] *See* Corr *700 MHz Commercial Services* Comments at 3.

[211] *See* NextWave *700 MHz Commercial Services* Comments at 6-10 & Attach. I; NextWave *700 MHz Commercial Services* Reply Comments at 2-9 & Attach. I. NextWave's modified proposal includes two new *unpaired* 10-megahertz blocks and one new *paired* 10-megahertz block (comprised of two 5-megahertz blocks) in the Upper 700 MHz Band, and two new unpaired 12-megahertz blocks in the Lower 700 MHz Band. The size and location of the current unpaired 6-megahertz block, E Block in the Lower 700 MHz Band, would not be altered. *See* NextWave *700 MHz Commercial Services* Reply Comments at Attach. I. NextWave's original proposal suggested adopting unpaired spectrum blocks of 6-15 megahertz. *See* NextWave *700 MHz Commercial Services Notice* Comments at 7-8 & Attach. I. The reasons for opposing NextWave's proposal include: it would hamper the growth of alternative services, *see* AT&T *700 MHz Commercial Services* Reply Comments at 13-14 & n.32; MetroPCS *700 MHz Commercial Services* Reply Comments at 15; it has not been demonstrated that TDD will be successful in the marketplace, *see* MetroPCS *700 MHz Commercial Services* Reply Comments at 15; Alltel *700 MHz Commercial Services* Reply Comments at 5; and the Commission's decision should not favor a particular technology, *see* Cingular *700 MHz Commercial Services* Reply Comments at 10; AT&T *700 MHz Commercial Services* Reply Comments at 14.

[212] Navini *700 MHz Commercial Services* Comments at 1. Navini states that its current offering is built on a TDD scheme utilizing 16.5 megahertz bands. *Id.*

assigned (*i.e.*, E Block of the Lower 700 MHz Band). In addition, the Commission provided for a flexible use approach with respect to the services and technologies, "including provision of the full range of FDD- and TDD-based wireless services."[213] The band plan we are adopting today is carefully crafted to provide a mix of licenses of various sizes and bandwidths for the entire 700 MHz Band to meet the competing needs of a wide range of commenters and to meet a number of important policy goals, and we find that maintaining the current size of the unauctioned unpaired spectrum band is consistent with our decisions regarding the rest of the band plan.

95. We also decline to adopt Google's suggestion that the Commission should require two-way broadband platforms in the E Block of the Lower 700 MHz Band.[214] The Commission has provided for flexibility in services to be offered and technologies to be deployed in the 700 MHz Band. In the *Lower 700 MHz Report and Order*, the Commission adopted a flexible allocation for the Lower 700 MHz Band which "will allow service providers to select the technology they wish to use to provide new services that the market may demand."[215] Google's proposal regarding the use of the Lower 700 MHz Band's E Block could reduce this flexibility, and thus restrict the extent to which any potential bidder and licensee could operate in the band. Google does not present evidence of any significant support for the Commission deviating from its policy respecting flexible use, and we do not agree with Google's suggestion that the E Block lacks any immediate commercial value. The record reflects that the similar unpaired 6-megahertz D Block in the Lower 700 MHz Band, which is adjacent to E Block, is being used by Qualcomm for its MediaFLO service.[216] As discussed elsewhere in this Second Report and Order, service providers that hold licenses for the Lower 700 MHz Band E Block will have significant incentives to provide advanced broadband and other services. In addition, by licensing the E Block over smaller geographic areas, EAs, we are providing the opportunity for a wider range of potential licensees to access this spectrum. We therefore see no need to condition the use of this block as requested by Google.

96. Finally, we do not address a reallocation of additional spectrum for public safety purposes as discussed by Association of Public-Safety Communications Officials-International, Inc. (APCO), International Association of Chiefs of Police, International Association of Fire Chiefs, Major Cities Chiefs Association, Major County Sheriffs Association, and National Sheriffs' Association in their comments on the *700 MHz Commercial Services Notice*.[217] As these commenters acknowledge, such a reallocation is beyond the Commission's current statutory authority.[218] In any event, we are adopting

---

[213] *Lower 700 MHz Report and Order*, 17 FCC Rcd at 1070-71 ¶ 125, 1051-52 ¶ 70.

[214] *See* Letter from Richard S. Whitt, counsel for Google Inc. to Marlene H. Dortch, Secretary, FCC, in WT Docket No. 06-150 (filed May 21, 2007) ("Google May 21 *Ex Parte* in WT Docket No. 06-150") at 4-5. Specifically, Google argues that the E Block "only should be (1) utilized for interactive, two-way broadband services, (2) connected to the public Internet, and (3) used to support innovative software-based applications, services, and devices." *Id.* at 4.

[215] *Lower 700 MHz Report and Order*, 17 FCC Rcd at 1023 ¶ 1. The Commission further found that a flexible use approach was consistent with Section 303(y) of the Communications Act, which requires the Commission to make affirmative findings that a proposed flexible use allocation (1) is consistent with international agreements; (2) would be in the public interest; (3) would not deter investment in communications services and systems, or technology development; and (4) would not result in harmful interference among users. *Id.* at 1030 ¶ 15 (citing 47 U.S.C. § 303(y)). The Commission's rules allow non-guard band 700 MHz licensees to provide "any services for which its frequency bands are allocated." 47 C.F.R. § 27.2(a).

[216] *See* Qualcomm *Google Ex Parte* Comments at 3-4. Qualcomm comments that other mobile video technologies also operate in a 6-megahertz unpaired block of spectrum. *Id.* at 4.

[217] *See* APCO et al. *700 MHz Commercial Services Notice* Reply Comments at 2.

[218] *Id.* The Balanced Budget Act mandated that with respect to the 60 megahertz in the Upper 700 MHz Band, the Commission allocate 24 megahertz of spectrum for public safety services and the remaining 36 megahertz of spectrum for commercial use to be assigned by competitive bidding. *See* 47 U.S.C. § 337(a) (enacted by the Balanced Budget Act of 1997, Pub. L. No. 105-33, § 3004, 111 Stat. 251, 266 (adding new Section 337(a) and establishing initial timetable for conducting auctions)); Balanced Budget Act of 1997 § 3004 (adding new § 337 of the Communications Act). The Commission has made that allocation. *See* Reallocation of Television Channels 60-69, the 746-806 MHz Band, ET Docket No. 97-157, *Report and Order*, 12 FCC Rcd 22953 ¶ 1 (1998), *recon.*, 13 (continued....)

provisions elsewhere concerning the 700 MHz Public Safety Band and to establish nationwide interoperable wireless broadband for public safety.

b. Guard Bands Spectrum

(i) Background

97. In the *700 MHz Further Notice*, we proposed to change the sizes and locations of the Upper 700 MHz Guard Bands.[219] We sought comment on these changes within the framework of our tentative conclusion to designate the lower portion of the 700 MHz Public Safety Band for broadband communications, and to consolidate the narrowband channels to the upper portion of the public safety spectrum.[220] We tentatively concluded that the Commission should not adopt the BOP for the Guard Bands spectrum, or other proposals to the extent that they propose a reallocation of commercial spectrum for public safety use or the assignment of spectrum from our auction inventory without competitive bidding.[221] We reasoned that, prior to the completion of the DTV transition, Section 337 of the Act appears to prohibit the Commission from reallocating commercial spectrum for public safety use as proposed by the BOP and Ericsson.[222] Similarly, we stated that Section 337 appears to require competitive bidding to assign spectrum allocated for commercial use, making the BOP and the critical infrastructure industries (CII) proposals potentially unlawful.[223] Finally, we tentatively concluded that even if the Commission possessed legal authority to adopt the BOP, Ericsson, or CII proposals, they would not serve the public interest because they seek to assign additional spectrum to current licensees without competitive bidding.[224]

98. We also noted that a reconfiguration of the 700 MHz Public Safety Band could result in interference to the relocated public safety narrowband channels from existing Canadian and Mexican TV broadcasters in certain border areas.[225] The Canadian government has agreed to clear broadcasters from TV channels 63 and 68 and to use the spectrum for public safety purposes, and will clear broadcasters from all TV channels above channel 52 by August 31, 2011.[226] As such, channels 64 and 69, where all of the reconfigured narrowband channels will reside, are unlikely to be cleared until at least that date. Consequently, if we consolidate the public safety narrowband channels onto only channels 64 and 69, all narrowband channels will be subject to interference from Canadian broadcast operations within border areas during Canada's DTV transition. Furthermore, Mexico has not yet announced a date for transitioning its TV channels, including channels 64 and 69.[227] Accordingly, we proposed that public

(Continued from previous page)
FCC Rcd 21578 (1998) (Upper 700 MHz Reallocation Order). The DTV Act requires that the Commission auction the "recovered analog spectrum" which does not include the spectrum required by Section 337 of the Act to be made available for public safety services. DTV Act § 3003(a)(2); *see also 700 MHz Commercial Services Notice*, 21 FCC Rcd at 9349 ¶ 5, 9350-51 ¶ 9.

[219] *See 700 MHz Further Notice*, 22 FCC Rcd at 8132 ¶ 183.

[220] *Id.*

[221] *Id.* at 8147 ¶ 227. The Commission initially sought comment on the BOP and other proposals regarding the Guard Bands in the *700 MHz Guard Bands Notice*. *See 700 MHz Guard Bands Notice*, 21 FCC Rcd at 10430-35 ¶¶ 40-48.

[222] *See 700 MHz Further Notice*, 22 FCC Rcd at 8147 ¶ 227.

[223] *Id.*

[224] *Id.* The Commission added that the BOP also could create an increased potential for interference between 700 MHz Band public safety and commercial operations. *Id.*

[225] *See 700 MHz Further Notice*, 22 FCC Rcd at 8136 ¶¶ 195-196; *see also 700 MHz Guard Bands Notice*, 21 FCC Rcd at 10432 ¶ 45.

[226] Broadcasting Public Notice CRTC 2007-53 (May 17, 2007), available at http://www.crtc.gc.ca/archive/ENG/Notices/2007/pb2007-53.htm.

safety narrowband operations be permitted in Canadian border areas within the public safety allocation's internal guard band until the end of Canada's DTV transition. We also proposed to impose a license condition upon the non-Guard Bands commercial licensee adjacent to the public safety broadband allocation, creating temporary access in those border areas to 1 megahertz of that adjacent block to preserve the full 5-megahertz bandwidth of the public safety broadband allocation.[228]

99. After reaching tentative conclusions to not adopt the BOP, CII, or Ericsson proposals, we invited comment on an alternative proposal filed by the BOP proponents (the Access Spectrum/Pegasus Alternative Proposal), which sought to address legal concerns raised by the BOP. Under the alternative proposal, 32 megahertz of commercial broadband spectrum would be auctioned, but the size of the public safety allocation would remain unchanged.[229] Specifically, the proposal assumes reconfiguration of the 700 MHz public safety spectrum and seeks to remedy potential public safety narrowband interference issues by shifting the entire 700 MHz Public Safety Band downward by 1 megahertz from its current location. In addition, as part of this shift, the current Guard Band A Block (at 746-747 MHz and 776-777 MHz) would be relocated immediately below the paired public safety broadband spectrum, and the Guard Band B Block would be relocated immediately above the public safety narrowband spectrum, and reduced from a 4-megahertz block (paired 2-megahertz blocks) to a 2-megahertz block (paired 1-megahertz blocks). The relocated Guard Band B Block would then serve as a Commission-held guard band, still within the commercial allocation, to protect the public safety narrowband channels.

100. The Access Spectrum/Pegasus Alternative Proposal (a component of the Upper 700 MHz band plan Proposals 3, 4, and 5 in the *700 MHz Further Notice*) would require incumbent Guard Bands A and B Block licensees to "repack" their licenses into the reconfigured Guard Band A Block. The proposal also includes a commitment of the participating Guard Band licensees to fund the reconfiguration of the public safety spectrum, provided that the reconfigured Guard Band A Block would be subject to the same service rules as the adjacent non-Guard Band commercial licenses, including the flexibility to deploy cellular architectures. In the *700 MHz Further Notice*, we recognized that this proposal, particularly the spectrum "repacking," contemplates agreement of the incumbent licensees regarding the revised band plan, including geographic area assignments.[230] We tentatively concluded that we should reject the proposal if the incumbent licensees could not reach an agreement.[231]

101. As explained below, in response to the *700 MHz Further Notice*, we received comments on the Access Spectrum/Pegasus Alternative Proposal. We also received comments on our proposal to provide temporary access to 1 megahertz of non-Guard Band commercial spectrum to address potential interference to public safety communications at the Canadian border. Cyren Call and Ericsson submitted additional proposals concerning the 700 MHz Guard Bands. Finally, on July 6, 2007, all but one of the Guard Band licensees joined in a proposal ("July 6, 2007 Guard Bands Proposal") that addresses a number of objections to the Access Spectrum/Pegasus Alternative Proposal and which informs our determinations below.[232]

(Continued from previous page)

[227] Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 8. Mexican television broadcasters operate in the border areas on TV channels 63 and 64. *Id.* According to Access Spectrum/Pegasus, having interoperable public safety channels on both channels 63 and 68 in the United States helps alleviate interference issues. Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 10.

[228] *See 700 MHz Further Notice*, 22 FCC Rcd at 8136 ¶¶ 195-196.

[229] *Id.* at 8136-8137 ¶¶ 195-199.

[230] *Id.* at 8137 ¶ 199.

[231] *Id.*

[232] *See* Letter from Kathleen Wallman, on behalf of Access Spectrum, LLC, Dominion 700, Inc., Pegasus Communications Corporation, and Radiofone Nationwide PCS, LLC, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 96-86, 06-150, 06-169, PS Docket No. 06-229 (filed July 9, 2007) ("Access Spectrum/Pegasus July 6, 2007 *Ex Parte*").

102. *Border Interference.* There is widespread support for those aspects of the Access Spectrum/Pegasus Alternative Proposal that address potential interference to public safety narrowband operations in border areas. Northrop Grumman states that the proposal is the most appropriate plan to attain nationwide availability of public safety narrowband interoperability channels, absent a frequency shift or migration requirement.[233] In most respects, WCA supports band proposals that would incorporate Access Spectrum/Pegasus' Alternative Proposal.[234] WCA asserts that these proposals would ensure public safety interoperability via a uniform reconfiguration throughout the United States including along the borders.[235] The 4G Coalition notes that the alternative proposal would resolve funding and Computer Assisted Pre-Coordination Resource and Database ("CAPRAD") reprogramming issues, while other band plan proposals do not.[236]

103. Verizon Wireless states that the alternative proposal would address public safety interference issues in border areas, minimize the potential for interference between 700 MHz Band licensees,[237] and permit the Commission to provide public safety entities with spectrum assignments aligned with Canadian allocations.[238] NPSTC also favors band plans that incorporate the alternative proposal because it would address potential conflicts with Canadian TV broadcasters at the border arising from reconfiguration of the public safety spectrum.[239] Arcadian also supports the alternative proposal because it would address border area interference concerns and provide funding for reconfiguration of the 700 MHz Public Safety Band.[240]

104. Conversely, Alcatel-Lucent contends that the 1-megahertz downward shift under the alternative proposal would complicate international coordination and result in underutilization of the public safety broadband spectrum.[241] AT&T also opposes the alternative proposal, arguing that a guard band is required between the Lower and Upper 700 MHz C Blocks due to interference (or "noise-rise") potential, particularly where the types of services and power limits may differ.[242] MetroPCS claims that the alternative proposal would not resolve interference issues, and that the additional flexibility and capabilities afforded the 700 MHz Guard Band licensees would create a "windfall" for the incumbents.[243] Finally, some commenters continue to support the BOP.[244]

105. *Temporary Public Safety Access to Commercial Spectrum in the Upper 700 MHz Band.* Alcatel-Lucent opposes temporary access into the commercial Upper 700 MHz Band spectrum, adjacent to the 700 MHz Public Safety Band, for public safety broadband in Canadian border areas, and instead

---

[233] *See* Northrop Grumman *700 MHz Further Notice* Comments at 4.

[234] *See* WCA *700 MHz Further Notice* Comments at 4.

[235] *Id.* at 4-6, 9.

[236] *See* 4G Coalition *700 MHz Further Notice* Comments at 22.

[237] *See* Verizon Wireless *700 MHz Further Notice* Comments at 16.

[238] *Id.* at 17. Verizon Wireless suggests that the proposal would diminish the risk of interference to public safety licensees because it would retain the 1-megahertz guard band that separates the commercial and public safety spectrum, and also would provide enough spectrum in a larger 22-megahertz Upper 700 MHz Band C Block to allow for the use of an additional internal guard band to protect against high-power operations from the Lower 700 MHz Band C Block. *Id.* at 18.

[239] *See* NPSTC *700 MHz Further Notice* Comments at 25.

[240] *See* Arcadian *700 MHz Further Notice* Reply Comments at 3.

[241] *See* ALU *700 MHz Further Notice* Comments at 22.

[242] *See* AT&T *700 MHz Further Notice* Reply Comments at 25-28.

[243] *See* MetroPCS *700 MHz Further Notice* Comments at 24; *see also* Letter from Mark Stachiw, MetroPCS to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket No. 06-169 (filed Mar. 22, 2007).

[244] *See, e.g.*, Access Spectrum/Pegasus *700 MHz Further Notice* Comments, App. B; Northrop Grumman *700 MHz Further Notice* Comments at 10.

advocates flexible operating parameters for the 700 MHz Public Safety Band's internal guard band.[245] To ensure rapid deployment of public safety services, Alcatel-Lucent urges us to permit limited narrowband use of the internal public safety guard band in border areas and to expeditiously conclude temporary international agreements.[246] Access Spectrum/Pegasus oppose Alcatel-Lucent's proposal for flexible use of the public safety internal guard band to address border interference issues because it would only provide a temporary solution and preclude the permanent availability of interoperability channels.[247] They also argue that Alcatel-Lucent's proposal to permit temporary use of the public safety internal guard band for narrowband communications would effectively reduce the size of the available bandwidth of the public safety broadband spectrum because a 1-megahertz guard band between public safety's broadband and narrowband operations is necessary to prevent interference between the two uses.[248]

106. Northrop Grumman contends that providing public safety entities temporary access to commercial spectrum in the Upper 700 MHz Band would not meet their needs because it would create incompatibility with non-border areas by temporarily relocating the narrowband channels in border areas, thereby thwarting nationwide interoperability.[249] WCA also contends that such an interim allocation shift would frustrate interoperability and not serve the public interest.[250] The 4G Coalition contends that any band plan that the Commission adopts should not isolate public safety agencies in border areas, which would impede nationwide interoperability.[251] It argues that the temporary access plan is unlawful for some of the same reasons we have tentatively concluded not to adopt the BOP.[252] NPSTC similarly argues that the temporary access proposal would fail to solve public safety interoperability at the border and that the costs associated with returning it to permanent status are not known at this time.[253]

107. Ericsson argues that if temporary access into commercial Upper 700 MHz Band spectrum is created to maintain the full bandwidth of the public safety broadband spectrum, it would be more difficult to modify the band plan and the spectrum would be significantly devalued, possibly impeding use of the spectrum.[254] Ericsson also asserts that the temporary access proposal does not address broadcast interference at the Mexican border, and that licensees in the 700 MHz Band would have problems in certain border areas.[255] Ericsson urges the Commission to include the entire 700 MHz Band in its interoperability objectives, and to pursue bilateral talks to relieve spectrum constraints by February 2009.[256] Ericsson asserts that the temporary access proposal fails to address whether Mexico would agree to shut down broadcast operations in the band, and that it is better to harmonize the entire 700 MHz Band than to adopt temporary solutions that would be difficult to reverse.[257]

108. *Cyren Call Proposal.* Cyren Call supports a new band plan (based on Proposal 4 in the *700 MHz Further Notice*), where the Guard Bands A and B Block licenses would be "repacked" into a reconfigured Guard Band A Block between two non-Guard Band commercial blocks (a revised D Block

---

[245] *See* Alcatel-Lucent *700 MHz Further Notice* Comments at 24.

[246] *Id.* at 21.

[247] *See* Access Spectrum/Pegasus *700 MHz Further Notice* Reply Comments at 10-11.

[248] *Id.* at 12.

[249] *See* Northrop Grumman *700 MHz Further Notice* Comments at 4.

[250] *See* WCA *700 MHz Further Notice* Comments at 8.

[251] *See* 4G Coalition *700 MHz Further Notice* Comments at 22.

[252] *Id.* at 22.

[253] *See* NPSTC *700 MHz Further Notice* Comments at 23, 24.

[254] *See* Ericsson *700 MHz Further Notice* Comments at 17.

[255] *Id.*

[256] *Id.*

[257] *Id.* at 21.

and a new "E Block") in the Upper 700 MHz Band, rather than between the non-Guard Band commercial block (the new "E Block") and the public safety spectrum. Cyren Call contends that this approach would make the public safety broadband spectrum, and adjacent non-Guard Bands commercial spectrum, more attractive to carriers seeking a nationwide footprint of up to 22 megahertz (or 24 megahertz if acquiring the revised Guard Band A Block).[258]

109. *Ericsson Proposal.* Ericsson argues that the Guard Band B Block should move to 747-749 MHz and 777-779 MHz, immediately above the existing Guard Band A Block.[259] Ericsson contends that this approach would improve interference protection for the public safety narrowband channels, providing an additional buffer between the Upper 700 MHz C Block and the public safety spectrum.[260] Ericsson adds that, on the lower half of the paired spectrum, its band plan would provide an additional buffer between the Lower and Upper 700 MHz C Blocks, where operations in the Lower 700 MHz Band have significantly higher power limits and may pose a threat to the Upper 700 MHz C Block.[261] Verizon Wireless opposes the Ericsson proposal, stating that it fails to address the Canadian border issue because public safety entities would lack the flexibility to deploy cross-border interoperable narrowband systems wherever blocked by Canadian broadcast facilities.[262]

110. *July 6, 2007 Guard Bands Proposal.* Access Spectrum/Pegasus, joined by other Guard Bands licensees, filed a new proposal dated July 6, 2007, which is based on Cyren Call's plan (discussed above), whereby all Guard Band A Block licensees (except PTMPS II) voluntarily "repack" into a new Guard Band A Block that is located between two non-Guard Band commercial 700 MHz Band blocks (the C and D Blocks) rather than adjacent to the public safety spectrum.[263] As explained in more detail below, these licensees provided signed waivers of their rights to object to these license modifications and have agreed to transfer their Guard Band B Block licenses to the Commission.

(ii) Discussion

111. We adopt a revised band plan for the 700 MHz Guard Bands spectrum and the Upper 700 MHz Band, which includes features of Cyren Call's additional band plan proposal and the July 6, 2007 Guard Bands Proposal. As an initial matter, we determine that with the reconfiguration of the 700 MHz Public Safety Band, the Guard Band B Block will no longer be necessary as a guard band between the non-Guard Bands commercial spectrum, and the public safety broadband spectrum.[264] To enable a more efficient, shared interoperable broadband network, we locate the Guard Band A Block between the Upper 700 MHz Band C and D Blocks, shifting the public safety broadband allocation downward by 1 megahertz and placing it adjacent to the commercial D Block that will be used for the 700 MHz Public/Private Partnership. This new band plan addresses potential public safety narrowband interoperability issues in border areas, and frees up 2 megahertz of B Block Guard Band spectrum nationwide (except for PTPMS II's two grandfathered MEAs) to be included in the auction of commercial spectrum.

112. Finally, consistent with our tentative conclusion in the *700 MHz Further Notice*, we determine that we lack legal authority to adopt the BOP, the CII, or the Ericsson proposals because they propose a reallocation of commercial spectrum to public safety, and assignment of commercial licenses from our auction inventory without competitive bidding. We also reject the most recent Ericsson band

---

[258] *See* Cyren Call *700 MHz Further Notice* Comments, Att. 1.

[259] *See* Ericsson *700 MHz Further Notice* Comments at 23.

[260] *Id.* at 23-24.

[261] *Id.* at 26-27.

[262] Verizon Wireless *700 MHz Further Notice* Reply Comments at 11.

[263] *See* Access Spectrum/Pegasus July 6, 2007 *Ex Parte*.

[264] However, as discussed below, a reconfigured 1-megahertz B Block remains necessary as a guard band between the public safety narrowband channels and the upper half of the paired C Block.

plan proposal as well as the Access Spectrum/Pegasus Alternative Proposal and the Cyren Call proposal to the extent they are inconsistent with our actions in this Second Report and Order.

(a) Revisions to Upper 700 MHz Band Plan for Guard Bands

113. Background. As explained above, the reconfiguration of the 700 MHz Public Safety Band may result in interference to the relocated narrowband channels from existing Canadian and Mexican TV broadcasters in certain border areas. Both the BOP, and the Access Spectrum/Pegasus alternative to the BOP, propose a 1-megahertz downward shift of the public safety spectrum into the former Guard Bands spectrum at 763-764 MHz and 793-794 MHz while maintaining the full 24-megahertz public safety allocation required by Section 337 of the Act. This shift creates a 1-megahertz overlap between the consolidated narrowband channels and TV channels 63 and 68, which Canada has already agreed to clear of broadcasters. This shift also addresses the Canadian border issue for public safety operations on the reconfigured narrowband channels.

114. In addition to addressing the Canadian border issue, the Access Spectrum/Pegasus Alternative Proposal includes an agreement to consolidate the existing Guard Bands A and B Block licenses into a 2-megahertz block (comprised of paired spectrum at 762-763 MHz and 792-793 MHz). The repacking frees up an additional 2 megahertz of commercial spectrum to be added to the licenses set for auction, permitting the auction of 32 megahertz of commercial spectrum in the Upper 700 MHz Band. Finally, the alternative proposal would relocate the Guard Band B Block, which is reduced to a 2-megahertz block (comprised of paired spectrum at 775-776 MHz and 805-806 MHz). The lower half of the reconfigured B Block (at 775-776 MHz) would serve as a necessary guard band to protect the public safety narrowband channels from commercial operations in the upper half of the paired C Block.[265]

115. After the release of the *700 MHz Further Notice*, Access Spectrum/Pegasus modified their alternative proposal to request auction discount vouchers (also called bidding offset credits) to account for relinquishing spectrum to the Commission as part of the repacking plan, and for their agreement to fund the 700 MHz Public Safety Band reconfiguration.[266] They also proposed an "option-variant" of their two-sided auction proposal.[267] Access Spectrum explained that the variant was designed to address obligations to certain customers, including a right of first refusal from one customer with respect to all of its 700 MHz Guard Band licenses.[268] Access Spectrum/Pegasus also advised that one incumbent Guard Band licensee, PTPMS II, has declined to repack its three licenses into the reconfigured A Block.[269]

116. *July 6, 2007 Guard Bands Proposal.* Given the increasing complications of their alternative proposal, Access Spectrum/Pegasus, joined by other Guard Bands licensees, filed a new proposal dated July 6, 2007, which is partly based on Cyren Call's additional proposal (discussed above). Under the new proposal, all Guard Band A Block licensees (except PTPMS II) "repack" into a new Guard

[265] By contrast, the upper half of the reconfigured B Block (at 805-806 MHz) will be located between 700 MHz public safety and 800 MHz public safety spectrum rather than between commercial and public safety spectrum.

[266] Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 13-14. Access Spectrum/Pegasus proposed that the vouchers be useable in any auction and fully transferable, measured by the population covered by the surrendered bandwidth (*i.e.*, in MHz-pops), and expressed in a $/MHz-pop value equal to the gross value of winning bids in the auction of Upper 700 MHz licenses divided by the total MHz-pops auctioned. *Id.*

[267] Under the option variant, after the auction of the adjacent D Block, Access Spectrum/Pegasus could choose to either: (a) sell each repacked A Block license to the D Block licensee at the D Block's $/MHz-pop auction value; or (b) move to the reconfigured B Block within the matching service area. *Id.* at 11, n.15, App. A at 2-3.

[268] *See* Letter from Ruth Milkman, Counsel, Access Spectrum, LLC to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 96-86, 06-150, 06-169, PS Docket No. 06-229 at 2 (filed July 3, 2007).

[269] *See* Access Spectrum/Pegasus *700 MHz Further Notice* Reply Comments at 7. With respect to Radiofone, Access Spectrum/Pegasus propose that the Radiofone B Block license be grandfathered at its existing spectral location, such that the available public safety broadband spectrum in the Gulf service area would be reduced from 5 megahertz to 4 megahertz.

Band A Block located between two non-Guard Band commercial blocks (the C and D Blocks) rather than next to the public safety broadband allocation.[270] In the July 6, 2007 *ex parte* letter, Access Spectrum/Pegasus and the other Guard Bands licensees provided signed waivers of their rights to object to these license modifications and agreed to transfer their remaining B Block licenses to the Commission. They also provided that their new proposal is not conditioned upon auction discount vouchers or the two-sided auction "option variant,"[271] and each licensee affirmatively waived its right under Section 316 to object to the license modifications that would not include such mechanisms.[272] These proposals therefore are moot and it is unnecessary to reach a decision regarding the use of vouchers or a two-sided auction to achieve our goals in this proceeding. All of the incumbent Guard Bands licensees, except PTPMS II, executed the agreement. APCO and NPSTC support the July 6, 2007 Guard Bands Proposal.[273] The 4G Coalition – whose members include DIRECTV, EchoStar, Google, Intel, Skype, and Yahoo – also supports the proposal, provided that we adopt a public/private partnership involving a commercial license adjacent to the public safety spectrum in the Upper 700 MHz Band.[274]

117. On July 26, 2007, the Guard Band licensees reaffirmed their waiver of rights under Section 316, and explained that the waiver contemplates that "the new Upper 700 MHz A Block would be afforded the same OOBE limits, cellular architecture, and frequency coordination rules as the lower adjacent Upper 700 MHz commercial block without 'open access' obligations."[275] Access Spectrum/Pegasus and Dominion advised that they will not object to modification of their Guard Band A Block licenses, effective upon publication of this Second Report and Order in the Federal Register.[276] In addition, Access Spectrum/Pegasus and Radiofone advised that they would transfer their Guard Band B Block licensees to the Commission, within five days of publication of this Second Report and Order in the Federal Register.[277] PTPMS II, the only other Guard Bands licensee, has not agreed to modification of its one A Block license, or to return its two B Block licenses to the Commission. On July 27, 2007, Arcadian Networks, Inc., which holds a limited right of first refusal regarding Access Spectrum's Guard Band licenses, advised the Commission that it supports the spectrum repacking proposal, and that its right of first refusal is not applicable to any Guard Band A Block licenses that would be conveyed as part of the spectrum repacking, or any B Block license surrendered to the Commission for cancellation.[278]

---

[270] Access Spectrum/Pegasus July 6, 2007 *Ex Parte*. Radiofone has agreed to surrender its B Block license in the Gulf (MEA 52), and will not hold any license in the relocated A Block. *See* Letter from Access Spectrum, LLC, Dominion 700, Inc., Pegasus Communications Corporation, and Radiofone Nationwide PCS, LLC, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 96-86, 06-150, 06-169, PS Docket No. 06-229 (filed July 13, 2007) ("Access Spectrum/Pegasus July 13, 2007 *Ex Parte*").

[271] Access Spectrum/Pegasus July 6, 2007 *Ex Parte*.

[272] *Id.*

[273] *See* Letter from Robert M. Gurss, APCO International, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 96-86, 06-150, and 06-169, and PS Docket No. 06-229 (filed July 9, 2007) (noting that APCO and NPSTC support the July 6, 2007 Guard Bands Proposal, provided that the Commission ensures "reimbursement for public safety narrowband licensees that incur costs to reprogram radios to the new channel allotments").

[274] *See* Letter from 4G Coalition to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 96-86, 06-150, 06-169, PS Docket No. 06-229 at 1 (filed July 11, 2007).

[275] *See* Letter from Access Spectrum, LLC, Access 700, LLC, Access 700 Holdings, LLC, Dominion 700, Inc., Pegasus Guard Band LLC, and Radiofone Nationwide PCS, LLC, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 96-86, 06-150, 06-169, PS Docket No. 06-229 at 2 (filed July 26, 2007) ("Access Spectrum/Pegasus July 26, 2007 *Ex Parte*").

[276] *Id.* at 1.

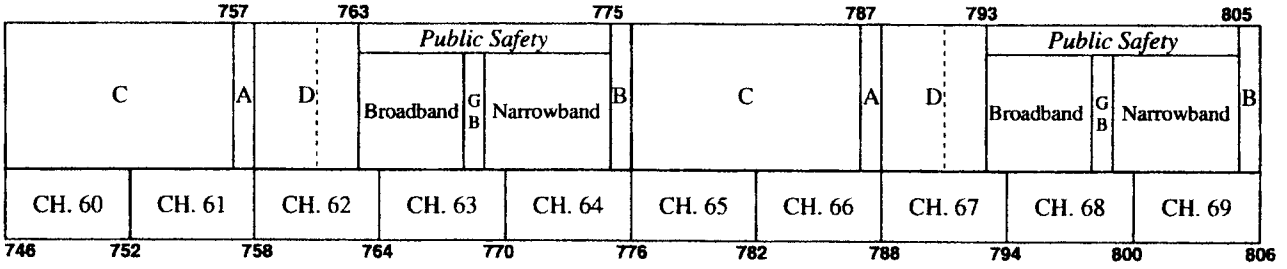
[277] *Id.*

[278] *See* Letter from Access Spectrum, LLC, Access 700, LLC, Access 700 Holdings, and Arcadian Networks, Inc., to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 96-86, 06-150, 06-169, PS Docket No. 06-229 (filed July 27, 2007) ("Access Spectrum/Arcadian July 27, 2007 *Ex Parte*").

118. Discussion. We conclude that adoption of the July 6, 2007 Guard Bands Proposal will serve the public interest. Foremost, we agree with commenters that it is better to permanently address the Canadian border problem and harmonize the entire 700 MHz Band than to adopt an interim solution such as the temporary access to 1 megahertz of spectrum proposed in the *700 MHz Further Notice*. We adopt this proposal based on the agreement of all Guard Band licensees except PTPMS II, whose two Guard Band B Block licenses we grandfather, and whose one Guard Band A Block license we repack into the reconfigured Guard Band A Block.

119. We conclude that the existing Guard Band B Block is no longer needed as a guard band to protect the adjacent 700 MHz public safety users, and to the extent possible, should be consolidated with the rest of the commercial spectrum for more efficient and effective use. As noted above, Cyren Call filed a revised band plan, reflected in the July 6, 2007 Guard Bands Proposal, in which Guard Band licensees would repack into a reconfigured Guard Band A Block between two commercial blocks. We find that the public interest is best served by adoption of features of the Cyren Call and July 6, 2007 proposals because it removes the "repacked" Guard Band A Block from the critical juncture between the Upper 700 MHz D Block and the public safety broadband spectrum, which together will be used as the foundation for the 700 MHz Public/Private Partnership. We also find that the value of the spectrum rights to be relinquished by Access Spectrum/Pegasus and the other Guard Bands licensees would substantially offset any alleged "windfall" they might enjoy because of a more desirable spectral position in the band, and less restrictive technical rules.[279] The figure below depicts the revised Upper 700 MHz Band Plan.

FIGURE 10: REVISED UPPER 700 MHZ BAND PLAN INCLUDING GUARD BANDS



120. *Funding for Public Safety Reconfiguration.* As the result of these changes to the band plan, the Upper 700 MHz D Block now is immediately adjacent to the 700 MHz public safety broadband spectrum. In the *700 MHz Further Notice*, we anticipated that this adjacency could facilitate the transition to wireless broadband for the 700 MHz public safety broadband spectrum.[280] We find that the consolidation of public safety broadband spectrum to the lower portion of the 700 MHz Public Safety Band will provide significant benefits to the adjacent D Block licensee. Without such consolidation, the D Block licensee would be adjacent to an incompatible, narrowband system architecture, which could inhibit commercial broadband system deployment. This is particularly critical to the D Block Licensee, which must construct a shared network using both the D Block spectrum and the public safety broadband spectrum.

121. We note that the public safety community has long held that any reconfiguration of the 700 MHz public safety spectrum must not come at their expense given their inability to fund such a transition.[281] By shifting funding responsibility to the adjacent D Block licensee, we address this concern

[279] MetroPCS contends that the additional flexibility and capabilities that would be afforded the Guard Bands licensees under the alternative to the BOP (that were unavailable at auction) would create a "windfall" for the incumbents. *See* MetroPCS *700 MHz Further Notice* Comments at 24. Similarly, Cyren Call asserts that locating the "new" A Block between public safety and commercial spectrum would force the commercial licensee to purchase the A Block spectrum and result in an economic windfall to the A Block licensees. Cyren Call *700 MHz Further Notice* Comments at 32.

[280] *700 MHz Further Notice*, 22 FCC Rcd at 8132 ¶ 185.

[281] *See, e.g.*, NPSTC Reply Comments in WT Docket No. 96-86 at 7-12 (filed July 6, 2006); Letter from APCO, International Association of Chiefs of Police, International Association of Fire Chiefs, Major Cities Chiefs (continued....)

while assigning the expense to recognize the significant benefits that will accrue to the D Block licensee. Accordingly, we conclude that the D Block licensee must pay the costs of consolidating the 700 MHz public safety narrowband channels to the upper half of the 700 MHz Public Safety Band. These costs and associated implementation issues are discussed in further detail below.

122. *License Modifications.* The Commission may modify licenses where it determines that the modification serves the public interest, convenience, and necessity.[282] The U.S. Court of Appeals for the District of Columbia Circuit has held that license modifications do not have to be consensual[283] and that license holders may be moved on a service-wide basis, without license-by-license consideration.[284] It has upheld license modifications that involve relocating existing licensees to different spectrum, outside of the auction process. Specifically, the court has found that the Commission may approve spectrum swaps between existing licensees, without offering the swapped spectrum to alternative users.[285]

123. Pursuant to Section 316 of the Act, we find that the public interest, convenience, and necessity will be served by relocating all existing Guard Band A Block licenses to the reconfigured Guard Band A Block located at 757-758 MHz and 787-788 MHz.[286] With the exception of PTPMS II, which holds one A Block license and two B Block licenses, the license modifications that we effect today are consensual. Specifically, in July 6 and 26, 2007 *ex parte* letters, officers of Access Spectrum, Dominion 700, Pegasus, and Radiofone each agreed that the licensees will not contest the modification of their licenses as described above.[287]

124. We find that modifying the 700 MHz Guard Bands licenses will serve the public interest, convenience, and necessity in four respects. First, it will enable the downward spectrum shift that protects public safety narrowband operations from interference in certain border areas. Second, "repacking" the existing Guard Band A Block licenses between the Upper 700 MHz Band C and D Blocks will avoid placing a potential obstacle between the two now-contiguous spectrum blocks comprising the 700 MHz Public/Private Partnership. Third, we will realize these benefits for public safety and the 700 MHz Public/Private Partnership with the least disruption possible to the use of the

(Continued from previous page) ———————————
Association, Major Counties Sheriffs Association and National Sheriffs' Association to Catherine Seidel, Acting Chief, Wireless Bureau, FCC, *Ex Parte* in WT Docket No. 96-86 (filed July 31, 2006).

[282] 47 U.S.C. § 316(a)(1).

[283] *Peoples Broadcasting Co. v. United States*, 209 F.2d 286, 288 (D.C. Cir. 1953) (upholding the Commission's authority to modify a television station license without an application by the licensee for such a modification, noting that "if modification of licenses were entirely dependent upon the wishes of existing licensees, a large part of the regulatory power of the Commission would be nullified").

[284] *Community Television, Inc. v. FCC*, 216 F.3d 1133, 1140 (D.C. Cir. 2000). In *Community Television*, the court upheld the FCC's rules establishing procedures and a timetable under which television broadcasting would migrate from analog to digital technology.

[285] *See Rainbow Broadcasting v. FCC*, 949 F.2d 405, 410 (D.C. Cir. 1991), in which the court held the Commission had the authority to allow noncommercial and commercial television licensees to exchange channels without exposing licensees to competing applications, despite third-party interest in acquiring the swapped licenses.

[286] *See* 47 U.S.C. § 316(a)(1) ("[a]ny station license . . . may be modified by the Commission . . . if in the judgment of the Commission such action will promote the public interest, convenience and necessity"). The U.S. Court of Appeals for the District of Columbia Circuit has held that "Section 316 grants the Commission broad power to modify licenses; [and] the Commission need only find that the proposed modification serves the public interest, convenience and necessity." *California Metro Mobile Communications v. FCC*, 365 F.3d 38, 45 (D.C. Cir. 2004). The court found that Section 316 is not unambiguous and therefore deferred to the Commission's interpretation that "section 316 contains no limitation on the time frame within which it may act to modify a license and that its action under the section is not subject to the limitations on revocation, modification or reconsideration imposed by [s]ection 405." *Id.* at 45 (*citations omitted*). The court also found that the Commission's modification served the public interest, even though the modification was based on potential rather than actual interference, and it caused a minor disruption in CMMC's operations. *Id.* at 46.

[287] *See* Access Spectrum/Pegasus July 6, 2007 *Ex Parte;* Access Spectrum/Pegasus July 26, 2007 *Ex Parte*.

Upper 700 MHz spectrum. Finally, the spectrum repacking will provide an additional 2 megahertz of commercial spectrum for auction by reducing the current Guard Band B Block from 4 to 2 megahertz.

125. These license modifications also are consistent with Sections 337 and 309 of the Act, because the 4 megahertz of remaining Guard Bands spectrum remains commercial spectrum subject to auction.[288] Specifically, the 2 megahertz at 746-747 MHz and 776-777 MHz will be added to, and auctioned as part of, the Upper 700 MHz Band C Block in the forthcoming 700 MHz Band auction. The lower portion of the reconfigured commercial Guard Band B Block at 775-776 MHz will provide a necessary guard band between public safety narrowband communications and adjacent commercial services. The Commission will specify appropriate uses of this spectrum, and the related portion of the B Block at 805-806 MHz, at a future date.

126. *Spectrum Use Agreements.* Access Spectrum states that, pursuant to existing spectrum use agreements (SUAs), there are wireless systems currently operating in six of its licensed Guard Band A Block markets (MEAs 20, 26, 32, 37, 44, and 52).[289] Access Spectrum intends to transition these systems to the relocated Guard Band A Block, and requests special temporary authority (STA) for the current A Block in these MEAs to effect such a transition.[290] In MEA 20 (Minnesota), Access Spectrum notes that it could take 12 months from release of this Second Report and Order to transition a CII entity's "complex system" to the relocated A Block.[291]

127. We find that the public interest would be served by providing Access Spectrum a reasonable period to transition systems in the six markets to the relocated Guard Band A Block. Based on the record before us, it appears that 180 days (the maximum statutory period for an STA) would provide Access Spectrum sufficient time to relocate systems in five of the six MEAs.[292] Accordingly, pursuant to Section 309(f) of the Act,[293] we hereby grant Access Spectrum 180-day special temporary authorizations for MEAs 20, 26, 32, 37, 44, and 52 for the current Guard Band A Block (746-747 MHz, 776-777 MHz). We expect Access Spectrum to make a concerted effort to relocate all systems during the 180-day period, including the CII system in MEA 20. In the event that Access Spectrum cannot complete the transition of the CII system during the 180-day period, it may seek an appropriate extension of the STA upon a proper showing. Because we modify (repack and relocate) the Guard Band A Block MEA licenses held by Access Spectrum, Pegasus, and Dominion upon the effective date of this Second Report and Order, the six STA grants to Access Spectrum will be granted upon the effective date as well. We address the disposition of the one remaining Guard Band A Block license, which is held by PTPMS II, below.

128. *PTPMS II.* In the *700 MHz Further Notice,* we tentatively concluded not to adopt the Access Spectrum/Pegasus repacking proposal absent unanimity among all Guard Band licensees.[294] All of the Guard Band licensees have agreed to repacking except PTPMS II, which prefers to maintain the

---

[288] 47 U.S.C. §§ 337, 309.

[289] *See* Letter from Gunnar Halley, Counsel to Access Spectrum, LLC, to Marlene H. Dortch, Secretary, FCC, *Ex Parte* in WT Docket Nos. 96-86, 06-150, 06-169, PS Docket No. 06-229 (filed July 24, 2007) ("Access Spectrum July 24, 2007 *Ex Parte*").

[290] *See* Access Spectrum/Arcadian July 27, 2007 *Ex Parte.* Access initially requested primary authorization for these markets until grant of the Upper 700 MHz C Block license, followed by secondary authorization through February 17, 2009 (the DTV transition date). *See* Access Spectrum July 24, 2007 *Ex Parte.*

[291] *Id.*

[292] Access Spectrum states that it does not intend to renew the SUAs for MEA 52 (Gulf of Mexico) and MEA 32 (Dallas), which expire April 16 and August 31, 2008, respectively, at their current spectral locations, and that it will expeditiously relocate "relatively modest" systems in MEA 26 (Memphis), MEA 37 (Oklahoma City), and MEA 44 (where its customer operates a system in the Las Vegas area) once the associated equipment has been authorized for use by the Commission. Access Spectrum July 24, 2007 *Ex Parte* at 1-2.

[293] 47 U.S.C. § 309(f).

[294] *See 700 MHz Further Notice*, 22 FCC Rcd at 8137 ¶ 199.

current position of its licenses.[295] Based on the record before us and for the reasons stated above, however, we are convinced that the public interest is better served if we adopt a band plan that accounts for the single licensee that has not voluntarily agreed to spectrum repacking.

129. In the *700 MHz Further Notice*, we sought comment on grandfathering the incumbent Guard Band B Block licensees, including whether to permit operations under the current technical rules.[296] PTPMS II holds one Guard Band A Block license in Buffalo (MEA 003) and B Block licenses in Des Moines – Quad Cities (MEA 021) and El Paso – Albuquerque (MEA 039), but did not join the repacking agreement. To maintain a consistent band plan within the United States that protects reconfigured public safety narrowband operations from interference, we find that the public interest, convenience, and necessity will be served by modifying the PTPMS II licenses by shifting its Guard Band A Block license to the reconfigured A Block in the same geographic service area, and shifting its B Block licenses downward 1 megahertz.

130. On July 6, 2007, PTPMS II filed an *ex parte* in which it generally argued that modification of its licenses would be contrary to the public interest.[297] Among other things, PTPMS II argued that "[t]he record is not clear that there are demonstrable public interest benefits that would flow from" modification of its licenses.[298] We disagree. The protection of public safety is at the core of the Commission's public interest obligations.[299] The band plan that we are implementing today will enable the downward 1-megahertz band shift necessary to prevent interference to vital public safety communications in border areas. If we do not modify the PTPMS II licenses, the 1-megahertz spectrum shift that solves interference problems for reconfigured public safety narrowband operations in the border areas cannot be accomplished. Moreover, if PTPMS II's B Block licenses were to remain in their current spectral location, their resulting overlap of public safety spectrum would create interference between the services.[300] In addition, if the Guard Band A Block license in Buffalo does not move from 746-747 MHz and 775-776 MHz, a uniform shift of the Upper 700 MHz band plan cannot occur, frustrating what we have determined to be the optimal band plan for the Upper 700 MHz Band.

131. To ensure that critical interoperable public safety communications are uniform throughout the continental United States, we hereby modify PTPMS II's Guard Band A Block license in Buffalo (MEA 003), pursuant to Sections 316, 303, 301, and 4(i) of the Act,[301] to operate in the same geographic area but in the reconfigured A Block at 757-758 MHz and 787-788 MHz. We also modify PTPMS II's B Block licenses in Des Moines – Quad Cities (MEA 021) and El Paso – Albuquerque (MEA 039) by shifting them down by 1 megahertz, so that PTPMS II is authorized to operate at 761-763 MHz and 791-793 MHz. These modifications will not burden PTPMS II because it will continue to have access to the same amount and quality of spectrum, and the move within the band will not require any modification of deployed equipment, since PTPMS II does not have any operations associated with the three licenses.[302]

132. As a result of the foregoing modifications, the new nationwide Upper 700 MHz Band D Block license, at 758-763 MHz and 788-793 MHz, will be authorized in Des Moines – Quad Cities (MEA 021) and El Paso – Albuquerque (MEA 039) on a secondary basis to PTPMS II. As such, the D Block

---

[295] *See* Access Spectrum/Pegasus Reply Comments in WT Docket No. 06-169 at 8.

[296] *See 700 MHz Further Notice*, 22 FCC Rcd at 8132-33 ¶ 186.

[297] *See* PTPMS II July 6, 2007 *Ex Parte* at 2.

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

[299] *See* Improving Public Safety Communications in the 800 MHz Band, WT Docket No. 02-55, *Report and Order*, 19 FCC Rcd 14969, 14971 ¶ 1 (2004) ("*800 MHz Report and Order*").

[300] *See 700 MHz Further Notice*, 22 FCC Rcd at 8137 ¶ 199.

[301] 47 U.S.C §§ 316, 303, 301, 154(i).

[302] *See* PTPMS II Guard Band Manager's Annual Report, available at http://wireless.fcc.gov/services/index.htm?job=guardband_reports&id=700_guard.

licensee may not cause interference to primary operations of PTPMS II or claim protection from harmful interference from any operations of PTPMS II in those MEAs.[303] The D Block licensee must cease operations on the spectrum assigned to PTPMS II in these two markets if it poses an interference problem to PTPMS II. In the event that PTPMS II, or a successor or an assign of PTPMS II, elects to cancel either of its grandfathered licenses, or if either license cancels automatically, or is terminated by the Commission, then the licensed geographic area will revert, without further action by the Commission, to the D Block licensee. This reversionary interest will include the right to operate under the technical rules consistent with those that apply to the remainder of the D Block license.

133. However, as explained elsewhere in this Second Report and Order, we do not believe it is in the public interest to permit these two grandfathered licenses to operate indefinitely under a technical regime that is potentially incompatible with the D Block or the adjacent Public Safety Broadband Licensee. Nor do we find that the public interest would be served by permitting PTPMS II to operate indefinitely within the D Block, and thus impede the provision of broadband public safety operations in the populous Des Moines – Quad Cities (MEA 021) and El Paso – Albuquerque (MEA 039) markets to the detriment of the American public. We therefore grandfather PTPMS II's two B Block licenses without any renewal expectancy, and do not extend the term of its licenses as we have for the D Block (discussed below). We will afford PTPMS II's Guard Band A Block license the modified (less stringent) technical rules that we adopt below for all other Guard Band A Block licenses.

134. Accordingly, pursuant to Section 316 of the Act and Section 1.87 of the Commission's rules,[304] PTPMS II has 30 days from the effective date of this Second Report and Order to protest the foregoing license modifications. Consistent with the July 6 and 26, 2007 *Ex Partes*, no protest rights will be afforded to any other Guard Band licensee.[305]

(b) Broadband Optimization Plan (BOP), Critical Infrastructure Industries (CII) and Ericsson Proposals

135. Background. 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 "for commercial use to be assigned by competitive bidding pursuant to Section 309(j)."[306] 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.[307] In

[303] 47 C.F.R. § 2.105(c)(2).

[304] 47 U.S.C. § 316; 47 C.F.R. § 1.87.

[305] *See* Access Spectrum/Pegasus July 6, 2007 *Ex Parte;* Access Spectrum/Pegasus July 26, 2007 *Ex Parte*.

[306] 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).

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

deciding whether or not to allow commercial operations inside the Guard Bands, 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.[308] If the Commission had decided to prohibit operations inside the Guard Bands, it would have fallen 6 megahertz short of fulfilling the explicit allocation requirement in Section 337(a).[309] In light of this statutory mandate, we tentatively concluded in the *Further Notice* that the Commission 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 this spectrum outside of the competitive bidding process.[310] We also tentatively concluded that even if the Commission possessed legal authority to adopt the BOP, Ericsson, or CII proposals, they would not be in the public interest.[311]

136. Discussion. For the reasons discussed in the *700 MHz Further Notice*, we adopt our tentative conclusion that we cannot adopt the BOP, Ericsson, or CII proposals. First, we find that Congress's express instructions in Section 337 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 therefore we cannot reallocate commercial spectrum for public safety as contemplated by the BOP and Ericsson proposals. Even if Section 337(a) does not establish a permanent legislative bar on reallocating the Upper 700 MHz Band, we nevertheless conclude 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).[312]

137. Similarly, because Section 337 requires us to use a competitive bidding process to assign spectrum that has been allocated for commercial use, we must also deny the BOP's proposal to reassign 1 megahertz from the Guard Band B Block to the current Guard Band A Block licensees, and the CII proposals to award Guard Band B Block licenses within our inventory to their constituents outside of competitive bidding. As noted above, Section 337(a)(2) prescribes competitive bidding as the method of assigning commercial spectrum in the Upper 700 MHz Band.[313] For the same reasons that we cannot reallocate the band at this time, we also conclude that we cannot alter the method of assignment at this time, and thus on this basis also we must deny the BOP and CII proposals. We note that the proposal adopted by the Commission today does not possess the same legal infirmity because it does not involve the assignment of spectrum from the Commission's auction inventory outside of the competitive bidding process.

138. With respect to the BOP, even if we had legal authority to assign additional spectrum to the current Guard Band A Block licensees without competitive bidding, we conclude that the proposals for assigning commercial spectrum licenses in this manner would not serve the public interest. Under the BOP, the Guard Band A Block licensees would receive an additional 1 megahertz of spectrum outside of the auctions process. Given that we lack authority to assign additional Upper 700 MHz Band spectrum to public safety as contemplated by the BOP, there is no unique or compelling reason in the record to award the BOP proponents additional commercial spectrum in the 700 MHz Band outside of the competitive bidding process. Moreover, we believe that any residual benefits associated with the BOP plan are not

---

[308] *See Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5316-19 ¶¶ 36-40.

[309] *Id.*

[310] *700 MHz Further Notice*, 22 FCC Rcd at 8147 ¶ 227.

[311] *Id.* The Commission added that the BOP could also result in interference between 700 MHz Band public safety and commercial operations. *Id.*

[312] 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.

[313] 47 U.S.C. § 337(a)(2).

unique to the BOP and can be achieved through the Commission's established spectrum management mechanisms. Similarly, we find that the CII proposals would not serve the public interest because they include an assignment of commercial spectrum to licensees outside of the competitive bidding process.[314] Although we recognize the potential for CII entities to engage in life-critical communications, we do not find a sufficient public interest rationale for creating any exception in the 700 MHz Band from the current, established practice of subjecting CII to competitive bidding for spectrum that serves their commercial infrastructures.

139. Finally, we conclude that the additional Ericsson band plan proposal is not in the public interest. We believe that the band plan we are adopting today better addresses the need for the establishment of a large, continuous block of paired 11-megahertz spectrum, as compared to the Ericsson proposal. We believe that retaining the B Block and merely moving its location is not the most efficient use of spectrum, given our finding that the B Block at its current location is no longer necessary as a guard band and should be subsumed into the 700 MHz Band commercial spectrum to be auctioned.

2. Service Rules

a. Commercial Services (Excluding Guard Bands and Upper 700 MHz D Block)

(i) Performance Requirements

140. Background. The Commission first adopted performance requirements for the commercial services in the Upper 700 MHz Band, and then subsequently followed with similar rules for the Lower 700 MHz Band. In the *Upper 700 MHz First Report and Order*, the Commission required that licensees in the 746-764 and 776-794 MHz Bands provide "substantial service," as outlined in Section 27.14(a) of its rules.[315] These rules require licensees to provide "substantial service" within ten years of license issuance.[316] The *Upper 700 MHz First Report and Order* also established safe harbors for licensees with regard to the substantial service requirement. Specifically, a licensee would be considered to be providing "substantial service" in the licensed service area if it constructs four permanent links per one million people (when fixed, point-to-point service is offered) or if it demonstrates coverage of 20 percent of the population (when the licensee offers either mobile services or fixed, point-to-point service).[317] For the Lower 700 MHz Band, the Commission also adopted the substantial service standard with the same safe harbors in the *Lower 700 MHz Report and Order*.[318] In addition, in the *Rural Report and Order*, the Commission established a safe harbor for substantial service related to the provision of mobile telephony service in rural areas. In that Order, the Commission stated that a licensee providing mobile service in certain 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."[319] 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.[320]

141. *700 MHz Commercial Services Notice.* In 2006, in the *700 MHz Commercial Services Notice*, we sought comment on whether we should revise these existing performance requirements, or adopt alternative build-out rules, for licenses in the 700 MHz Band that have not been auctioned in order

[314] As we expressed in the *700 MHz Further Notice*, CII entities are eligible to participate in future auctions for spectrum in the 700 MHz Band. *See 700 MHz Further Notice*, 22 FCC Rcd at 8149 ¶ 233 n.491.

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

[316] 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.*

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

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

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

[320] 47 C.F.R. § 1.946(c).

to promote access to spectrum and the provision of service to consumers.[321] In particular, we asked for comment on the effectiveness of the existing substantial service standard and safe harbors and whether changes or revisions should be adopted to better promote service, especially in rural areas.[322] The *700 MHz Commercial Services Notice* also asked commenters to address whether the Commission should adopt alternative performance requirements, such as benchmarks based on the population or geographic area within a license area, instead of the substantial service standard.[323] In addition, we asked for comment on whether our performance requirements should include a "keep-what-you-use" rule similar to that applied to cellular service in the 1980s, or a slightly modified version called "triggered keep-what-you-use."[324]

142. In response to the *700 MHz Commercial Services Notice*, commenters offered a variety of arguments on the issue of performance requirements. Most of the parties that commented on this issue opposed replacing the substantial service standard with a stricter performance requirement. These parties included a mix of large, medium, and small CMRS providers, as well as two providers of broadband technology.[325] On the other hand, a number of other parties strongly supported a "keep-what-you-use" approach, including rural CMRS providers, a tribal government, and a coalition of state government agencies.[326] In addition, some commenters argued in favor of construction benchmarks based on the population or geographic area served, and some of these parties also recommended a combination of both benchmarks and a "keep-what-you-use" approach.[327] For example, RCA recommended a combination of both geographic benchmarks and a "keep-what-you-use" rule.[328] A related proposal by the Vermont Department of Public Service *et al.* included a combination of population or geographic benchmarks and a "keep-what-you-use" rule.[329] Other commenters argued that the Commission should allow third parties

---

[321] *700 MHz Commercial Services Notice*, 21 FCC Rcd at 9373-76 ¶¶ 60-69.

[322] *Id.* at ¶ 62-63.

[323] *Id.* at ¶ 64-66.

[324] *Id.* at ¶ 67-69.

[325] *See, e.g.*, AT&T *700 MHz Commercial Services Notice* Comments at 12-16; AT&T *700 MHz Commercial Services Notice* Reply Comments at 21-24; CTIA *700 MHz Commercial Services Notice* Comments at 7-16; Cingular *700 MHz Commercial Services Notice* Comments at 9-13; Corr *700 MHz Commercial Services Notice* Comments at 5-8; Dobson *700 MHz Commercial Services Notice* Comments at 5-10; Leap *700 MHz Commercial Services Notice* Comments at 9-10; Leap *700 MHz Commercial Services Notice* Reply Comments at 5-6; MetroPCS *700 MHz Commercial Services Notice* Comments at 15-16; MetroPCS *700 MHz Commercial Services Notice* Reply Comments at 10-12; MilkyWay *700 MHz Commercial Services Notice* Comments at 7-9; NextWave *700 MHz Commercial Services Notice* Reply Comments at 14; Qualcomm *700 MHz Commercial Services Notice* Comments at 19; Union Telephone *700 MHz Commercial Services Notice* Comments at 5-6; U.S. Cellular *700 MHz Commercial Services Notice* Comments at 12-16; U.S. Cellular *700 MHz Commercial Services Notice* Reply Comments at 11-16; Verizon Wireless *700 MHz Commercial Services Notice* Comments at 6-9.

[326] *See, e.g.*, Howard/Javed *700 MHz Commercial Services Notice* Comments at 24-26; Navajo Nation *700 MHz Commercial Services Notice* Comments at 2-3; OPASTCO *700 MHz Commercial Services Notice* Comments at 5-6; RCA *700 MHz Commercial Services Notice* Comments at 8-10; RCA *700 MHz Commercial Services Notice* Reply Comments at 4-7; RTG *700 MHz Commercial Services Notice* Comments at 8-9; Vermont Department of Public Service *et al. 700 MHz Commercial Services Notice* Comments at 5-10; Vermont Department of Public Service *et al. 700 MHz Commercial Services Notice* Reply Comments at 4-7.

[327] *See, e.g.*, DIRECTV/EchoStar *700 MHz Commercial Services Notice* Comments at 9; Navajo Nation *700 MHz Commercial Services Notice* Comments at 2-3; RCA *700 MHz Commercial Services Notice* Comments at 8-10; RCA *700 MHz Commercial Services Notice* Reply Comments at 4-7; Vermont Department of Public Service, *et al. 700 MHz Commercial Services Notice* Comments 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.

[328] *See* RCA *700 MHz Commercial Services Notice* Comments at 8-10; RCA *700 MHz Commercial Services Notice* Reply Comments at 4-8.

[329] *See* Vermont Department of Public Service, *et al. 700 MHz Commercial Services Notice* Comments at 5-8.

to access the unused portions of a licensee's spectrum on a non-interfering basis.[330] These commenters referred to the *TV White Spaces Report and Order*,[331] in which the Commission allowed for unlicensed use of spectrum in the core TV broadcast bands, and they argued that the Commission also should allow such use in the 700 MHz Band.[332] Other commenters specifically opposed permitting this type of unlicensed use in the 700 MHz Band.[333]

143. *700 MHz Further Notice.* More recently, in the *700 MHz Further Notice*, we sought comment on the performance requirements for commercial licensees in the 700 MHz Band and asked commenters to address specific approaches.[334] As a basis for consideration of this issue, we asked for comment on our proposal to adopt a modified version of a recommendation by RCA, which would apply both performance requirements based on geographic benchmarks and a "keep-what-you-use" rule.[335] We proposed that licensees be required to provide service that covers 25 percent of the geographic area of the license area within three years, 50 percent of the area within five years, and 75 percent of the area within eight years.[336] We further proposed that, in applying such a geographic benchmark, we would consider the relevant service area to exclude all government land.[337]

144. We also asked commenters to address the potential consequences for licensees that fail to meet their interim and end-of-term build-out requirements.[338] We observed that the consequences for failure to meet an interim benchmark could include a reduction in the length of the license term.[339] In addition, we sought comment on RCA's recommendation that licensees that fail to meet an interim benchmark face a "proportionate" application of the "keep-what-you-use" rule, in which a license area would be reduced sufficiently to create a resulting license in which the licensee meets the relevant benchmark.[340] With regard to end-of-term build-out requirements, we sought comment on whether we should apply a "keep-what-you-use" rule.[341] We specifically asked that commenters address how the Commission might apply such a rule.[342] We noted that the Commission could apply a "keep-what-you-use" rule regardless of the level of construction by the licensee, or it could apply such a rule only in the event a licensee failed to meet a specific coverage requirement.[343]

145. We also proposed to apply performance requirements only on an EA or CMA basis and sought comment on this approach. We noted that this proposal would require REAG licensees to meet

---

[330] *See, e.g.*, Howard/Javed *700 MHz Commercial Services Notice* Comments at 31-37; NextWave *700 MHz Commercial Services Notice* Reply Comments in WT Docket No. 06-150 at 9-12 (supporting rules allowing unlicensed use on a secondary basis); Tropos Comments in WT Docket No. 06-150 at 9-11 (recommending bands designated for unlicensed use).

[331] Unlicensed Operation in the TV Broadcast Bands, Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band, ET Docket No. 04-186, *First Report and Order and Further Notice of Proposed Rulemaking*, 21 FCC Rcd 12266 (2006) (*TV White Spaces Report and Order*).

[332] *See* Howard/Javed *700 MHz Commercial Services Notice* Comments at 31-37; NextWave *700 MHz Commercial Services Notice* Reply Comments at 9-12.

[333] *See* CTIA *700 MHz Commercial Services Notice* Reply Comments at 11.

[334] *See 700 MHz Further Notice*, 22 FCC Rcd at 8140-43 ¶¶ 207-220.

[335] *See 700 MHz Further Notice*, 22 FCC Rcd at 8142 ¶ 212.

[336] *See id.*

[337] *See 700 MHz Further Notice*, 22 FCC Rcd at 8142 ¶ 213.

[338] *Id.* at 8142-43 ¶¶ 214-15.

[339] *Id.* at 8142 ¶ 214.

[340] *Id.*

[341] *Id.* at 8142 ¶ 215.

[342] *Id.* at 8142-43 ¶ 215.

[343] *See 700 MHz Further Notice*, 22 FCC Rcd at 8142 ¶ 214.

the service benchmarks on an EA basis, and that failure to do so in a particular EA would result in a loss of a portion of the geographic area in that EA.[344] Finally, we asked for comment on any other proposal that would apply build-out requirements that would be more stringent than the current substantial service standard. In particular, we asked if population benchmarks should be used instead of geographic benchmarks.[345]

146. In response to the *700 MHz Further Notice*, commenters take a variety of positions with regard to performance requirements. A broad mix of commenters urge the Commission to continue to utilize its substantial service criteria.[346] This mix of commenters includes nationwide, regional, and small and rural service providers,[347] industry trade groups,[348] and potential new entrants.[349] These commenters contend that a substantial service rule is consistent with prior Commission pronouncements, promotes flexibility, relies on market forces, and that there has been no showing of a problem related to lack of construction or spectrum warehousing that would necessitate more stringent performance criteria. Leap observes that the Commission previously has determined that a substantial service standard has important advantages, such as allowing the Commission to take into consideration the provision of service to rural areas, niche markets, or discrete populations.[350] Similarly, Union notes that the Commission previously has stated that a substantial service standard provides flexibility for rural providers to tailor business plans for their unique and sparsely populated markets.[351]

147. Other commenters assert that the Commission should impose either a population- or geographic-based build-out requirement, and that this requirement also should include some form of interim benchmarks.[352] Parties favoring the use of population-based performance requirements for commercial licenses include a couple of nationwide service providers,[353] a provider of wireless services in rural and suburban areas,[354] and an equipment provider.[355] For example, AT&T argues that, to the extent

---

[344] *See 700 MHz Further Notice*, 22 FCC Rcd at 8143 ¶ 217.

[345] *See 700 MHz Further Notice*, 22 FCC Rcd at 8143 ¶ 220.

[346] *See, e.g.*, 4G Coalition *700 MHz Further Notice* Comments at 12-20; AT&T *700 MHz Further Notice* Comments at 14-17; Blooston *700 MHz Further Notice* Comments at 7-9; Council Tree *700 MHz Further Notice* Comments at 12-15; CTIA *700 MHz Further Notice* Comments at 3-10; Dobson *700 MHz Further Notice* Comments at 3; Leap *700 MHz Further Notice* Comments at 5-7; McBride *700 MHz Further Notice* Comments at 16-17; MetroPCS *700 MHz Further Notice* Comments at 29-38; RTG *700 MHz Further Notice* Comments at 8-12; SpectrumCo *700 MHz Further Notice* Comments at 20-30; TIA *700 MHz Further Notice* Comments at 7-8; Union *700 MHz Further Notice* Comments at 8; USCC *700 MHz Further Notice* Comments at 14-19; Verizon Wireless *700 MHz Further Notice* Comments at 19-31.

[347] *See* Blooston *700 MHz Further Notice* Comments at 7-9; Dobson *700 MHz Further Notice* Comments at 3-6; Leap *700 MHz Further Notice* Comments at 5-7; Union *700 MHz Further Notice* Comments at 10; AT&T *700 MHz Further Notice* Comments at 15; U.S. Cellular *700 MHz Further Notice* Comments at 14-19; Verizon Wireless *700 MHz Further Notice* Comments at 28-30.

[348] *See* CTIA *700 MHz Further Notice* Comments at 10; TIA *700 MHz Further Notice* Comments at 7-8.

[349] *See* 4G Coalition *700 MHz Further Notice* Comments at 12-14, 16-18; SpectrumCo *700 MHz Further Notice* Comments at 21-24.

[350] *See* Leap *700 MHz Further Notice* Comments at 6.

[351] *See* Union *700 MHz Further Notice* Comments at 8.

[352] *See, e.g.*, 700 MHz Independents *700 MHz Further Notice* Comments at 8-10; Aloha *700 MHz Further Notice* Comments at 3-4; CCIA *700 MHz Further Notice* Comments at 4; Cellular South *700 MHz Further Notice* Comments at 3-5; Embarq *700 MHz Further Notice* Comments at 5; Frontier *700 MHz Further Notice* Comments at 10-12; RCA *700 MHz Further Notice* Comments at 11; RTG *700 MHz Further Notice* Comments at 8-12; WISPA *700 MHz Further Notice* Comments at 12-14; *see also* RCA *700 MHz Further Notice* Reply Comments at 1-11.

[353] *See* AT&T *700 MHz Further Notice* Comments at 19-20; Verizon Wireless *700 MHz Further Notice* Comments at 28-30, Attach. A at 4-5, 7.

[354] *See* Dobson *700 MHz Further Notice* Comments 6-7.

it decides to adopt a build-out rule that is more specific than substantial service, the Commission should adopt population-based benchmarks that would be like those applied to initial PCS licenses.[356] Verizon Wireless argues that, to the extent it decides to adopt stricter build-out rules, the Commission should adopt population-based benchmarks that require coverage of 50 percent of the population within five years and 75 percent of the population within ten years.[357] Dobson recommends that the Commission apply a benchmark for REAG licenses that is based on population, not geography.[358]

148. Parties favoring geographic-based performance requirements include regional service providers,[359] industry trade groups representing rural service providers,[360] an organization dedicated to improving 911 service,[361] and a coalition of state agencies.[362] These commenters maintain that the existing substantial service standard is inadequate and does not promote service in rural areas, and that it does not further other Commission goals. RCA and RTG argue that the superior propagation characteristics of the 700 MHz Band make this spectrum especially susceptible to spectrum warehousing, and it concludes that stricter build-out requirements are an appropriate remedy.[363] Similarly, Vermont Department of Public Service *et al.* states that, if the Commission adopts its proposed geographic benchmarks, this will "benefit the public by setting an expectation that licensees will provide service widely throughout the license area, including in more rural areas."[364]

149. Some commenters that support either population- or geographic-based construction benchmarks also support the adoption of a "keep-what-you-use" rule.[365] These parties state that this approach is pro-competitive, because it allows new providers to acquire unused spectrum, and equitable, because licensees only lose the unused portions of their license area. Those who oppose a "keep-what-you-use" rule argue that such provisions will lead to uneconomic build-out, promote "greenmail," and chill secondary markets.[366] A few commenters argue that, rather than reclaim spectrum, the Commission

(Continued from previous page)

[355] *See* Motorola *700 MHz Further Notice* Comments at 34.

[356] *See* AT&T *700 MHz Further Notice* Comments at 19-20.

[357] *See* Verizon Wireless *700 MHz Further Notice* Comments at 28-29.

[358] *See* Dobson *700 MHz Further Notice* Comments 6-7.

[359] *See* Cellular South *700 MHz Further Notice* Comments at 3-8.

[360] *See* RCA *700 MHz Further Notice* Reply Comments at 7-8, RTG *700 MHz Further Notice* Reply Comments at 8-10.

[361] *See* NENA *700 MHz Further Notice* Reply Comments at 3.

[362] *See* Vermont Department of Public Service *et al. 700 MHz Further Notice* Reply Comments at 1-3.

[363] *See* RCA *700 MHz Further Notice* Comments at 7-8; RTG *700 MHz Further Notice* Comments at 9-12; RCA *700 MHz Further Notice* Reply Comments at 7-8, 11; RTG *700 MHz Further Notice* Reply Comments at 8.

[364] *See* Vermont Department of Public Service *et al. 700 MHz Further Notice* Reply Comments at 1-2.

[365] *See, e.g.*, 700 MHz Independents *700 MHz Further Notice* Comments at 8-10 (support adoption of rules similar to those used for licensing unserved cellular areas); PISC *700 MHz Further Notice* Comments at 37 (agrees with the general proposal that licensees should be subject to a "use-or-lose" license condition); Aloha *700 MHz Further Notice* Comments at 4 (supports the general "keep-what-you-use" proposal set forth in the 700 MHz Further Notice); Blooston *700 MHz Further Notice* Comments at 7-8 (Commission should exempt CMA licenses from "keep-what-you-use" performance criteria); CCIA *700 MHz Further Notice* Comments at 4 (urges the Commission to adopt "keep-what-you-use"); Cellular South *700 MHz Further Notice* Comments at 6 (supports RCA's proportionate "keep-what-you-use" approach); Dobson *700 MHz Further Notice* Comments at 6-7 (supports use of "keep what you use" relicensing for small-sized service areas only); RCA *700 MHz Further Notice* Comments at 7-8; RTG *700 MHz Further Notice* Comments at 5-7, 9 (supports cellular "keep-what-you-use" procedures); Verizon Wireless *700 MHz Further Notice* Comments at 19-31; Vermont Department of Public Service et al. *700 MHz Further Notice* Reply Comments at 1-3.

[366] *See, e.g.*, AT&T *700 MHz Further Notice* Comments at 14-17 ("keep-what-you-use" re-licensing approach is inconsistent with long-standing Commission policy); CTIA *700 MHz Further Notice* Comments at 10 (Commission should establish performance requirements similar to AWS performance requirements); Leap *700 MHz Further* (continued....)

should designate unserved areas as "vacant channels" that would be usable by unlicensed devices.[367]

150. In addition, some commenters support the use of the specific interim geographic benchmarks that were proposed in the *700 MHz Further Notice*. For example, RCA specifically favors the application of the proposed performance requirements to all 700 MHz Band licenses to be auctioned.[368] Similarly, Vermont Department of Public Service *et al.* recommend the same mix of strict geographic-based benchmarks.[369]

151. Other commenters expressed concern about the specific interim geographic benchmarks that were proposed in the *700 MHz Further Notice*. If the Commission adopts geographic benchmarks, these parties argue that either any interim benchmark should be longer than three years or a three-year interim benchmark should not apply to rural areas.[370] Blooston states that the Commission should not apply geographic benchmarks or a "keep-what-you-use" rule to rural areas, and that if a "keep-what-you-use" rule is adopted, licenses based on CMAs should be exempt.[371] Other commenters recommend that the Commission exempt RSA-based licenses from any interim build-out requirements.[372] In contrast, Dobson argues that strict geographic-based build-out requirements should apply only to licenses based on CMAs and EAs, not those based on REAGs.[373] Other commenters opposed to a three-year interim benchmark note that such an approach does not account for high start-up costs or the time needed to develop new technologies, and that it hurts new entrants. For example, the 4G Coalition maintains that obligations and timelines such as those proposed by RCA "would dissuade, if not outright foreclose, a nationwide new entrant business plan."[374]

152. Finally, some smaller service providers, as well as a regional service provider, support the Commission's proposal to require REAG licensees to meet build-out requirements on an EA basis.[375] Other commenters argue that build-out for REAG licenses should be evaluated under the existing

(Continued from previous page)
Notice Comments at 6 ("keep-what-you-use" could have particularly unfortunate consequences); MetroPCS *700 MHz Further Notice* Comments at 30 ("keep-what-you-use" mechanisms are particularly burdensome for smaller and regional carriers); Motorola *700 MHz Further Notice* Comments at 36 ("keep-what-you-use" creates uncertainty, may chill the auction process, and is not necessary given the competitive nature of the commercial market); SpectrumCo *700 MHz Further Notice* Comments at 20-30 (Commission should not adopt either of the "keep what you use" policy proposals described in the *700 MHz Further Notice*); TIA *700 MHz Further Notice* Comments at 7-8 (Commission should apply the same construction obligations that it has applied in the broadband PCS context); Union *700 MHz Further Notice* Comments at 9 (opposes re-licensing mechanism to reclaim spectrum); USCC *700 MHz Further Notice* Comments at 17-18 ("keep-what-you-use" requirement will create powerful regulatory incentives to engage in economically irrational behavior); WISPA *700 MHz Further Notice* Comments at 12-14 (a licensee that fails to meet the applicable benchmarks should not automatically have its license area reduced, but should face a higher level of scrutiny at the end of its license term).

[367] *See, e.g.*, PISC *700 MHz Further Notice* Comments at 37; Google *700 MHz Further Notice* Comments at 9.

[368] *See* RCA *700 MHz Further Notice* Comments at 5.

[369] *See* Vermont Department of Public Service *et al. 700 MHz Further Notice* Reply Comments at 1-3.

[370] *See, e.g.*, 4G Coalition *700 MHz Further Notice* Comments at 12-20; 700 MHz Independents *700 MHz Further Notice* Comments at 8-10; Aloha *700 MHz Further Notice* Comments at 3-4; Dobson *700 MHz Further Notice* Comments at 3; Frontier *700 MHz Further Notice* Comments at 10-12; RTG *700 MHz Further Notice* Comments at 8-12; Union *700 MHz Further Notice* Comments at 8; Verizon Wireless *700 MHz Further Notice* Comments at 19-31; WISPA *700 MHz Further Notice* Comments at 12-14.

[371] *See* Blooston *700 MHz Further Notice* Comments at 7-8.

[372] *See, e.g.*, RTG *700 MHz Further Notice* Comments at 9-10; NTCA *700 MHz Further Notice* Comments at 5-7; Union *700 MHz Further Notice* Reply Comments at 4-6.

[373] *See* Dobson *700 MHz Further Notice* Comments at 3-7.

[374] *See* 4G Coalition *700 MHz Further Notice* Comments at 15.

[375] *See, e.g.*, 700 MHz Independents *700 MHz Further Notice* Comments at 8-10; Cellular South *700 MHz Further Notice* Comments at 6; Union *700 MHz Further Notice* Comments at 8.

substantial service standard or the existing substantial service standard should be applied on an EA basis.[376]

153. Discussion. In order to better promote access to spectrum and the provision of service, especially in rural areas, we replace the current "substantial service" requirements for the 700 MHz Band licenses that have not been auctioned with significantly more stringent performance requirements. These include the use of interim and end-of-term benchmarks, with geographic area benchmarks for licenses based on CMAs and EAs, and population benchmarks for licenses based on REAGs. Licensees must meet the interim requirement within four years of the end of the DTV transition (*i.e.*, February 17, 2013).[377] Failure to meet the interim requirement will result in a two-year reduction in license term,[378] as well as possible enforcement action, including forfeitures. We also reserve the right for those that fail to meet their interim benchmarks to impose a proportional reduction in the size of the licensed area. Licensees that fail to meet the end-of-term benchmarks will be subject to a "keep-what-you-use" rule, under which the licensee will lose its authorization for unserved portions of its license area, which will be returned to the Commission for reassignment. They may also be subject to potential enforcement action, including possible forfeitures or cancellation of license. We also impose certain reporting requirements intended to help the Commission monitor buildout progress during the license term. We expect that licensees will take these construction requirements seriously and proceed toward providing service with utmost diligence. As such, we do not envision granting waivers or extensions of construction periods except where unavoidable circumstances beyond the licensee's control delay construction.

154. In adopting these stringent performance requirements for the 700 MHz Commercial Services licenses that have not yet been auctioned, we accomplish several important policy objectives. We ensure that these 700 MHz Commercial Services licensees put this spectrum to use throughout the course of their license terms and serve the majority of users in their license areas. With the inclusion of an interim benchmark and the potential for enforcement action for failure to meet the construction requirements, we require licensees to provide service to consumers in a timely manner. By taking advantage of the excellent propagation characteristics of the spectrum in the 700 MHz Band, which enables broader coverage at lower costs,[379] we promote the provision of innovative services to consumers throughout the license areas, including in rural areas. The unique propagation characteristics of this spectrum means that fewer towers will be needed to serve a given license area, as compared to providing service at higher frequencies, and thus large license areas may be served at lower infrastructure costs. Moreover, by establishing clear benchmarks, we provide 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.

155. Overall, we conclude that these set of stringent benchmarks applied across smaller service areas with effective consequences for noncompliance, when combined with appropriately sized geographic licensing areas, are the most effective way to promote rapid service to the public, especially in rural areas. As noted above, the most common recommendation for promoting rural service made by small and rural providers was that additional licenses be made available based on smaller geographic

---

[376] *See, e.g.*, 4G Coalition *700 MHz Further Notice* Comments at 17; Dobson *700 MHz Further Notice* Comments at 3; Verizon Wireless *700 MHz Further Notice* Comments at 19-31. According to SpectrumCo, "greenmail" is "a practice by which parties not interested in actually providing service utilize the regulatory process to extract concessions from licensees." SpectrumCo *700 MHz Further Notice* Comments at 29.

[377] The interim benchmark for initial licenses in a market granted after February 17, 2009 shall be four years from the date of license issuance.

[378] As adopted herein, the length of original license term is ten years from the date of the DTV transition.

[379] *See* Aloha *700 MHz Commercial Services Notice* Comments at 2; Blooston *700 MHz Commercial Services Notice* Comments at 3; Dobson *700 MHz Commercial Services Notice* Comments at 3; Frontier *700 MHz Commercial Services Notice* Comments at 4; NTCA *700 MHz Commercial Services Notice* Comments 3-5; RCA *700 MHz Commercial Services Notice* Comments at 3-4; RTG *700 MHz Commercial Services Notice* Comments at 4-5.

service areas, which would be more readily available to providers that tend to serve rural consumers.[380] Because, as described below, all licensees (including REAG licensees) must satisfy these new benchmarks on either a CMA or EA basis, these performance requirements will provide all licensees with incentives to serve more rural communities.

156. In addition, our "keep-what-you-use" rules provide additional methods for making smaller license areas available, thus promoting access to spectrum and the provision of service, especially in rural areas. This rule ensures that others are given an opportunity to acquire spectrum that is not adequately built out and provide services to those who reside in those areas.[381] In this way, our rules are pro-competitive and help ensure service to communities that might otherwise not receive service. In sum, we conclude that our approach should effectively promote service, including in rural areas, while establishing a clear regulatory framework for licensees as they develop their business plans.

157. *Specific Performance Requirements for CMA and EA Licenses.* We conclude that, for licenses based on CMAs and EAs, licensees must provide signal coverage and offer service to: (1) at least 35 percent of the geographic area of their license within four years of the end of the DTV transition, and (2) at least 70 percent of the geographic area of their license at the end of the license term. In determining the relevant geographic area, we conclude that, in applying geographic benchmarks, we should not generally consider the relevant area of service to include government lands. CMA or EA licensees that fail to meet the interim requirement within their license areas will have their license terms reduced by two years, from ten to eight years, thus requiring these licensees to meet the end-of-term benchmark at an accelerated schedule. For those CMAs or EAs in which the end-of-term performance requirements have not been met, the unused portion of the license will terminate automatically without Commission action and will become available for reassignment by the Commission subject to the "keep-what-you-use" rules described below.

158. With regard to the use of geographic-based benchmarks for licenses based on CMAs and EAs, we seek to promote service across as much of the geographic area of the country as is practicable. We note that, while parties that seek to acquire licenses based on CMAs and EAs may be small and rural providers that are less likely to provide regional or nationwide service, they nonetheless play an important role in bringing new services to consumers in many of these more rural areas. For example, RTG argues that the use of small license areas such as CMAs "will create opportunities for small and rural businesses and will foster the deployment of competitive wireless broadband services in rural areas."[382] Because we adopt smaller geographic license areas such as CMAs to facilitate the provision of service, including broadband, in rural areas, we also adopt performance requirements that are designed to ensure that such service is offered to consumers in these areas. We agree with Cellular South's argument that the uniqueness of the 700 MHz spectrum justifies the use of geographic benchmarks and that the band's excellent propagation characteristics make it ideal for delivering advanced wireless services to rural areas.[383] Accordingly, for licenses based on these CMAs and EAs that are well-suited for providing service in rural markets, we establish benchmarks that require build-out to a significant portion of the geographic area.

---

[380] *See* Aloha *700 MHz Commercial Services Notice* Comments at 3-6; Balanced Consensus Plan *700 MHz Commercial Services Notice* Comment at Attach.; Blooston *700 MHz Commercial Services Notice* Comments at 2; C&W *700 MHz Commercial Services Notice* Reply Comments at 2-3; 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 9; Leap *700 MHz Commercial Services Notice* Comments at 4-6; MilkyWay *700 MHz Commercial Services Notice* Comments at 1-6; NextWave *700 MHz Commercial Services Notice* Comments at 2-6; NTCA *700 MHz Commercial Services Notice* Comments at 6; OPASTCO *700 MHz Commercial Services Notice* Comments at 2-3; RCA *700 MHz Commercial Services Notice* Comments at 4-8; RTG *700 MHz Commercial Services Notice* Comments at 2; U.S. Cellular *700 MHz Commercial Services Notice* Comments at 4.

[381] *See* RCA *700 MHz Further Notice* Reply Comments at 10.

[382] RTG *700 MHz Commercial Services Notice* Comments at 4.

[383] Cellular South *700 MHz Further Notice* Comments at 3.

159. We note that these benchmarks for CMAs and EAs are similar to the benchmarks that we sought comment on in the *700 MHz Further Notice*, which proposed that licensees provide coverage to 25 percent of their geographic license area within three years of the end of the DTV transition, 50 percent of their geographic license area within five years, and 75 percent of their geographic license area within eight years. Although numerous parties supported the specific benchmarks proposed in the *700 MHz Further Notice*,[384] the benchmarks we adopt in this Second Report and Order differ in certain respects from the proposal in the *700 MHz Further Notice*. In recognition of the comments we have received on our build-out proposal, we have adopted a four-year initial benchmark, not a three-year benchmark as was proposed in the *700 MHz Further* Notice. We are persuaded that a three-year build-out requirement would have a disproportionate impact on new entrants who have no existing networks or customers, as well as small or regional carriers who are looking to enlarge their operating footprint, but who do not already have extensive pre-existing infrastructure in place. In addition, we are allowing additional time for the development of new technologies that might be employed in this spectrum and giving licensees sufficient time to develop new services.[385] Because we move the proposed initial three-year coverage requirement to four years, we increase the initial geographic coverage requirement from the proposed 25 percent to 35 percent. Accordingly, we are not adopting a five-year coverage requirement, but we will require 70 percent geographic coverage at the end of the license term.

160. Consistent with the arguments of many commenters, we do not require licensees to include government lands as a part of the relevant service area when applying geographic benchmarks for several reasons. In many locations, covering certain government land may be impractical, because these lands are subject to restrictions that prevent a licensee from providing service or make provision of service extremely difficult. We also note that government lands often include only very small portions of the population in a license area. Government lands include areas that are owned or administered by the Federal Government, including the Bureau of Land Management, the Bureau of Reclamation, the U.S. Department of Agriculture's Forest Service, the Department of Defense, the U.S. Fish and Wildlife Service, the National Park Service, the Tennessee Valley Authority, and other agencies and governmental entities, as well as areas that are owned or managed by individual states.[386] A CMA or EA licensee with a geographic service area that includes land owned or administered by government may meet the build-out benchmarks established herein by providing signal coverage and offering service to the relevant percentages of land in the service area that is not owned or administered by government.

161. To the extent the licensee employs a signal level and provides service to land that is owned or leased by government, the licensee may count this land area and coverage as part of its service area for purposes of measuring compliance with the build-out benchmark, but it also must add the covered government land to the total geographic area used for measurement purposes. This approach

---

[384] *See, e.g.*, Aloha *700 MHz Further Notice* Comments at 4; CCIA *700 MHz Further Notice* Comments at 4; Cellular South *700 MHz Further Notice* Comments at 4; RCA *700 MHz Further Notice* Comments at 5; Vermont Department of Public Service *700 MHz Further Notice* Reply Comments at 1-2; WISPA *700 MHz Further Notice* Comments at 12.

[385] We are concerned that the proposed three-year benchmark may not provide sufficient time for providers of advanced services to acquire and deploy 4G technologies. Such 4G network build-out will require the commercial availability of end-to-end integrated systems, including subscriber terminals, radio access network, core network, and transport network, in addition to flexible enhanced services and integrated back-office and customer support centers. To achieve a commercial availability benchmark, teams of service providers, vendors and integrators must complete several parallel processes, including completion of the standards, product development, field trials, interoperability testing and larger scale trials, followed by deployment. Such an implementation is challenging and it may not be possible for carriers to complete these tasks prior to the end of the three-year benchmark that was proposed in the *700 MHz Further Notice*.

[386] More information on lands owned or administered by the Federal Government is available from the Department of the Interior at http://www.doi.gov. In excluding these areas for purposes of calculating whether a licensee has met the relevant build-out requirements, however, we do not intend to discourage deployment to populated tribal areas. Accordingly, excluded areas do not include those populated lands held by tribal governments or those held by the Federal Government in trust or for the benefit of a recognized tribe.

ensures that licensees receive credit for land that they cover and gives them flexibility to meet our benchmarks through a combination of covering government and non-government land, given that in certain cases government lands may be a high traffic area or include a significant portion of the population in a license area.

162. *Specific Performance Requirements for REAG Licenses.* We conclude that, for licenses based on REAGs, licensees must provide signal coverage and offer service to: (1) at least 40 percent of the population of the license area within four years, and (2) at least 75 percent of the population of the license area by the end of the license term. Licensees must use the most recently available U.S. Census Data at the time of measurement to meet these population based build-out requirements.

163. In addition, for licenses based on REAGs, we will apply our performance requirements on an EA basis.[387] Accordingly, to meet their benchmarks, REAG licensees must provide signal coverage and offer service to at least 40 percent of the population in each EA in its license area within four years and 75 percent of the population of each of these EAs at the end of the license term. REAG licensees that fail to meet the interim requirement in any EA within their license areas will have their license term for the entire REAG reduced by two years, from ten to eight years, thus requiring these licensees to meet the end-of-term benchmark at an accelerated schedule. In applying the end-of-term coverage requirement to REAG licensees, the Commission will evaluate the licensee's coverage on an EA-by-EA basis. For those EAs in which the end-of-term performance requirements have not been met, the unused portion of the license will terminate automatically without Commission action and will become available for reassignment by the Commission subject to the "keep-what-you-use" regime described below.

164. With regard to the use of population-based benchmarks for REAG licensees, we agree with Dobson that this type of build-out requirement is appropriate for licensees with large geographic areas to allow for roll out of advanced services on a nationwide or regional basis.[388] In particular, we are mindful of the significant capital investment and logistical challenges associated with building a regional or nationwide system without an existing infrastructure. The use of benchmarks based on population, rather than geographic area, may best allow a potential new entrant to achieve the economies of scale needed for a viable business model, while also ensuring that a majority of the population in a given region may have access to these services. Similarly, as compared to geographic benchmarks, the use of population benchmarks is more consistent with the recommendations and likely business plans of existing nationwide service providers such as AT&T and Verizon Wireless.[389] As these large providers expand into more advanced services such as broadband, they, like new entrants, will need to spread the costs of developing such operations over as many customers as possible. The use of population-based benchmarks, rather than geographic benchmarks, allows these new and existing providers to promptly and efficiently develop these new services, thus reaching more consumers more quickly. Accordingly, to facilitate new entry as well as the expansion of service to as many people as practicable, we combine the use of REAGs with population-based performance requirements. These population-based benchmarks are similar to those proposed by Verizon Wireless in its comments.[390] Verizon Wireless proposes covering 50 percent of the population of a license area within five years and 75 percent of the population of a license area by the end of the license term. We have adjusted the interim population percentage figure to 40 percent because we are making the first benchmark applicable at four years rather than five years. Further, we are applying these requirements on an EA basis for REAG licenses in order to help ensure that REAG licensees serve more rural consumers. If we were to apply these requirements on a REAG basis, rather than an EA basis, REAG licensees would be able to meet their performance requirements largely by serving urban areas only. Our use of EAs to measure build-out for REAG licenses will avoid this result and best promote the development and deployment of broadband services over such large

[387] *See, e.g.*, Cellular South *700 MHz Further Notice* Comments at 6.

[388] *See* Dobson *700 MHz Further Notice* Comments at 3-7.

[389] *See* AT&T *700 MHz Further Notice* Comments at 19-20; Verizon Wireless *700 MHz Further Notice* Comments at 28-29.

[390] See Verizon Wireless *700 MHz Further Notice* Comments at 28-29.

license areas.

165. *Reporting Requirements.* In connection with the performance requirements adopted in this Second Report and Order, we adopt an interim reporting requirement that will obligate licensees to provide the Commission with information concerning the status of their efforts to meet the performance requirements and the manner in which their spectrum is being utilized. In addition, this information will be useful to monitor whether further assessment of the rules or other actions are necessary in the event spectrum is being stockpiled or warehoused, or if it is otherwise not being made available despite existing demand. For licensees that meet their interim benchmarks, these reports will be filed at the end of the second and seventh years following the end of the DTV Transition, *i.e.*, February 17, 2011 and February 17, 2016. For licensees that do not meet their interim benchmarks and have their license terms reduced, the second report will be filed at the end of the sixth year following the end of the DTV Transition, *i.e.*, February 17, 2015. The information to be reported will include a description of the steps the licensee has taken toward meeting its construction obligations in a timely manner, including the technology or technologies and service(s) being provided and the areas in which those services are available.

166. *Procedures for Implementation.* Licensees must demonstrate compliance with our interim and end-of-term construction benchmarks by filing a construction notification with the Commission within 15 days of the relevant benchmark certifying that they have met our performance requirements or, if they have not met our performance requirements, they must file a description and certification of the areas for which they are providing service.[391] The information contained in the licensee's construction notification must include electronic coverage maps and other supporting documentation.[392] The construction notification, including the coverage maps and supporting documents, must be truthful and accurate and must not omit material information that is necessary for the Commission to make a determination of compliance with its performance requirements.[393] In addition, we recognize that demonstrations of coverage may vary across licensees. For example, unlike with cellular service, which was implemented pursuant to a uniform, Commission-mandated technical standard, licensees in the 700 MHz Band likely will use a variety of technologies to provide a range of services with this spectrum. Accordingly, we delegate to the Wireless Bureau the responsibility for establishing the specifications for filing maps and other documents (*e.g.*, file format and appropriate data) needed to determine a licensee's geographic coverage area. We recognize that coverage determinations may need to be made on a case-by-case basis so as to account for the potentially wide variety of services and technologies that may be offered in the band.

167. As explained above, licensees with REAG-based licenses are required to meet their applicable performance requirements on an EA basis and licensees with EA- or CMA-based licenses must demonstrate coverage for their respective geographic license areas. The electronic coverage maps must clearly and accurately depict the boundaries of each EA or CMA in the licensee's service territory, and the areas where the licensee is providing signal coverage and offering service. If the licensee's signal does not provide service to the entire EA or CMA, the map must clearly and accurately display the boundaries of the area or areas within each EA or CMA not being served.[394]

---

[391] *See* 47 C.F.R. § 1.946(d) ("The notification must be filed with Commission within 15 days of the expiration of the applicable construction or coverage period.").

[392] 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." 47 C.F.R. § 24.203(c). *See, e.g.*, Cellular South *700 MHz Further Notice* Comments at 5.

[393] *See, e.g.*, 47 C.F.R. § 1.17 (Truthful and accurate statements to the Commission); 47 C.F.R. § 1.917 ("Willful false statements made therein, however, are punishable by fine and imprisonment, 18 U.S.C. 1001, and by appropriate administrative sanctions, including revocation of station license pursuant to 312(a)(1) of the Communications Act of 1934, as amended.").

[394] We decline to adopt the suggestion from RTG that we define a bright line test for what constitutes sufficient signal strength, because we will be able to determine compliance with our build-out requirements on the basis of these detailed filing requirements. *See* RTG *700 MHz Further Notice* Comments at 8-12.

168. In addition to filing electronic coverage maps, each licensee must file supporting documentation certifying the type of service it is providing for each EA or CMA within its license service territory and the type of technology it is utilizing to provide this service for each EA or CMA in its service territory. The supporting documentation also must provide the assumptions used by the licensee to create the coverage maps, including the propagation model and the signal strength necessary to provide service with the licensee's technology.[395]

169. When the licensee files its construction notification, including its coverage maps and supporting documentation, the public will be given an opportunity to review and comment on the construction notification, including the maps provided by the licensee and the technical assumptions used to create the maps. After examining the notification and public comments, Commission staff will make a final determination as to what areas within EAs and CMAs are, and are not, deemed "served." If the Commission determines that a licensee meets the applicable interim benchmark, it will not have its license term reduced by two years. Likewise, if the Commission determines that a licensee meets its applicable end of term benchmark requirement, it will be deemed to have met our construction build-out requirement.

170. Under our "keep-what-you-use" rule, if a licensee fails to meet its end of term benchmark, its authorization to operate will terminate automatically without Commission action for those geographic areas of its license authorization in which the licensee is not providing service, and those unserved areas will become available for reassignment by the Commission. We will update our Universal Licensing System records to reflect those geographic areas for which the licensee retains authority to operate, as well as those geographic areas that will be made available for reassignment.

171. For purposes of reassigning these licenses, the Wireless Bureau is delegated authority to announce by public notice that these licenses will be made available and establish a 30-day window during which third parties may file license applications to serve these areas. During this 30-day period, licensees that lost their license authorizations for the areas that they did not serve may not file applications to provide service to these areas. Applications filed by third parties that propose areas overlapping with other applications will be deemed mutually exclusive, and will be resolved through an auction. The Wireless Bureau, by public notice, may specify a limited period before the filing of short-form applications (FCC Form 175) during which applicants may enter into a settlement to resolve their mutual exclusivity.

172. Following this 30-day period, the original licensee and third parties can file license applications for remaining unserved areas where licenses have not been issued or there are no pending applications. If the original licensee or a third party files an application, that application will be placed on public notice for 30 days. If no mutually exclusive application is filed, the application will be granted, provided that a grant is found to be in the public interest. If a mutually exclusive application is filed, it will be resolved through an auction. The Wireless Bureau, by public notice, may specify a limited period before the filing of short-form applications (FCC Form 175) during which applicants may enter into a settlement to resolve their mutual exclusivity. We stress that any applications that are mutually exclusive under the performance requirements we adopt in this Second Report and Order, as well as certain other pleadings, will be subject to Section 1.935 of the rules.[396] Under that rule, parties that have filed applications that are mutually exclusive with one or more other applications must request Commission approval to dismiss or withdraw the applications. Parties are required to submit any written agreement related to the dismissal or withdrawal as well as affidavits certifying that no money or other consideration in excess of certain "legitimate and prudent expenses" has or will be exchanged in return for withdrawing

[395] For EA and CMA licenses, if any part of the license area includes government lands, the licensee must certify in the supporting documentation what percentage of the EA or CMA contains government lands exempted from coverage.

[396] 47 C.F.R. § 1.935. In addition to applications, Section 1.935 also addresses petitions to deny, informal objections, or other pleadings.

or dismissing the applications.[397]

173. A licensee obtaining spectrum that was lost through our "keep-what-you-use" rule will have one year from the date it is issued a license to complete its construction and provide signal coverage and offer service to the entire new license area. If the licensee fails to meet this construction requirement, its license will automatically cancel without Commission action and it will not be eligible to apply to provide service to this area on the same frequencies at any future date. We find that a one-year deadline is consistent with the period we provided to entrants building out in unserved cellular areas,[398] and will promote expedited provision of service to remote and rural areas.

174. Under our "keep-what-you-use" rules, the Commission will determine whether an area is unserved by applying a *de minimis* standard similar to that applied to cellular service, which provides that the geographic service area to be made available to new entrants must include a contiguous area of at least 130 square kilometers (50 square miles).[399] Areas smaller than this will not be deemed unserved by the Commission, because auctioning and licensing smaller areas to new licensees could result in harmful interference to incumbent licensees. Accordingly, unserved areas that are smaller than 130 kilometers will continue to be a part of the licensee's license area. In those geographic areas that the Commission deems as served, the licensee will retain its exclusive spectrum rights, including the ability to transfer and lease these areas. As explained below, the licensee also will have the opportunity to expand its service into the unused parts of its original license area.

175. While we will enforce our performance requirements to make unserved areas available to new entrants, we also will enforce all other Commission rules, including those related to protecting licensees against interference and limiting strategic behavior. Our rule governing field strength limits for licensees in this band, for example, serves the dual purposes of permitting actual service to occur even at the edge of geographic market boundaries, and establishing a baseline for licensees to negotiate technical parameters (*e.g.*, higher or lower field strengths, coordinated site placement) that will maximize coverage. This approach can be successful so long as neighboring licensees not only have the flexibility to place facilities near license boundaries, but also face the potential of harmful interference from neighboring licensees facilities. A licensee, however, could decide to place transmitters along a market boundary, not provide service to any system users, and cause interference to a neighboring licensee. Without system users, such a licensee would not fear interference in return, and could use such operations to gain an advantage in negotiations with the neighboring licensee. Examples of this type of operation could include the placement of mobile system base station transmitters, or fixed transmitters, near a market boundary, oriented in such a way as to meet the field strength limits in the rules, but cause interference to a neighboring licensee's system users near the boundary. Because of the potential for this scenario, we remind licensees that Section 333 of the Communications Act, as amended,[400] prohibits willful and malicious interference with or causing interference to a licensed or authorized station, and we note that we will vigorously investigate complaints of this nature and enforce this provision.

176. *Other Issues.* In rejecting the arguments of parties advocating continuation of the current substantial service standard,[401] we note that there is no requirement that construction build-out provisions be the same for all commercial wireless services, nor even for those of a certain type.[402] We determine

---

[397] *Id.*

[398] 47 C.F.R. §§ 22.946(c), 22.949.

[399] *See* 47 C.F.R. § 22.951.

[400] 47 U.S.C. § 333.

[401] Some commenters argue that the details of implementation of "keep-what-you-use" will be overly burdensome and contentious. *See, e.g.*, Leap *700 MHz Further Notice* Comments at 5-7; Verizon Wireless *700 MHz Further Notice* Comments at 19-31.

[402] *See, e.g.*, 47 C.F.R. § 24.203(b) (sets out different construction obligations for certain 15 MHz C Block PCS licenses that result from disaggregation as compared to other 15 MHz C Block licenses that result from disaggregation).

that given the excellent propagation characteristics of this spectrum,[403] 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 performance requirements are appropriate for these 700 MHz commercial licenses.

177. Given these stringent performance requirements, we decline to adopt the proposal that would allow third parties to access the unused portions of a licensee's spectrum on a non-interfering basis. While several commenters raise this issue,[404] we note that, in the *TV White Spaces Report and Order*, the Commission specifically declined to apply to the 700 MHz Band the unlicensed use rules that it adopted for the core TV spectrum. The Commission observed that, as compared to the core TV bands, the 700 MHz Band will have different services, with different interference considerations.[405] The Commission also noted the difficulty of allowing unlicensed use of white spaces in spectrum used by mobile devices.[406] Moreover, we have taken other steps in this Report and Order to promote access to the 700 MHz Band, especially in rural areas, through the use of smaller geographic license areas and stringent build-out requirements.

(ii) Partitioning and Disaggregation

178. Background. The Commission's Part 27 rules permit geographic partitioning and spectrum disaggregation by 700 MHz Commercial Services licensees.[407] As the Commission stated when first establishing partitioning and disaggregation rules: "We believe that such flexibility will (1) facilitate the efficient use of spectrum by providing licensees with the flexibility to make offerings directly responsive to market demands for particular types of service; (2) increase competition by allowing market entry by new entrants; and (3) expedite the provision of service to areas that otherwise may not receive ... service in the near term."[408] Licensees seeking to partition or disaggregate ("partitioners" or "disaggregators") and parties seeking to gain access to spectrum through partitioning or disaggregation ("partitionees" or "disaggregatees") may seek Commission authorization at any time following the grant of the initial licenses.[409] At the time of their applications, the original licensees and the parties seeking to obtain new licenses of partitioned or disaggregated spectrum must establish how the applicable performance requirements associated with the various license authorizations will be met.[410] The goal of these construction requirements in both the partitioning and disaggregation context is "to ensure that the spectrum is used to the same degree that would have been required had the partitioning or disaggregation

---

[403] *See, e.g.*, Aloha *700 MHz Commercial Services Notice* Comments at 2; Blooston *700 MHz Commercial Services Notice* Comments at 3; Dobson *700 MHz Commercial Services Notice* Comments at 3; Frontier *700 MHz Commercial Services Notice* Comments at 4; NTCA *700 MHz Commercial Services Notice* Comments at 3-5; RCA *700 MHz Commercial Services Notice* Comments at 3-4; RTG *700 MHz Commercial Services Notice* Comments at 4-5.

[404] *See, e.g.*, Howard/Javed *700 MHz Commercial Services Notice* Comments at 31-37; NextWave *700 MHz Commercial Services Notice* Reply Comments at 9-12; PISC *700 MHz Further Notice* Comments at 37; *see also* Google *700 MHz Further Notice* Comments at 9.

[405] *TV White Spaces Report and Order*, 21 FCC Rcd at 12275 ¶ 21.

[406] For example, in addressing the issue of unlicensed use in the TV white spaces, the Commission noted that in 13 markets across the country Private Land Mobile Radio Service (PLMRS) licensees use some channels in the range of channels 14-20, and it observed that personal/portable mobile devices could be easily transported into these areas. Accordingly, the Commission prohibited such devices from operating on these channels in any part of the country. *See TV White Spaces Report and Order*, FCC Rcd at 12275 ¶ 21.

[407] 47 C.F.R. § 27.15.

[408] Geographic Partitioning and Spectrum Disaggregation by Commercial Mobile Radio Service Licensees, *Report and Order and Further Notice of Proposed Rulemaking*, 11 FCC Rcd 21831 ¶ 1 (1996) (*CMRS Partitioning and Disaggregation Order*).

[409] *See, e.g.*, 47 C.F.R. § 27.15 (partitioning and disaggregation rules for Part 27 licenses).

[410] *See id.*

transaction not taken place."[411]

179. Section 27.15(d) implements the Commission's existing rules pertaining to construction obligations in the context of partitioning and disaggregation. Consistent with the substantial service requirements that had previously been adopted for these licenses, the existing rules address how the substantial service policies apply in this context. The partitioning rules, set forth in Section 27.15(d)(1), provide parties with two different options for satisfying these requirements. Under the first option, the partitioner and partitionee each must certify that it will independently satisfy the substantial service requirement for its respective partitioned area. If a licensee, either the partitioner or the partitionee, subsequently fails to meet the performance requirements associated with the license authorization for its partitioned area, its license is subject to automatic cancellation without further Commission action. Under the second option, the partitioner must certify that it has met or will be responsible for meeting the performance requirements for the entire, pre-partitioned geographic service area.[412] We note that another Part 27 provision requires that the partitionee make a showing of substantial service at the end of the license term.[413]

180. The disaggregation rules, set forth in Section 27.15(d)(2), also provide parties two options for satisfying the substantial service requirements. Under the first option, the disaggregator and disaggregatee each must certify that it will share responsibility for meeting the substantial service requirement for the geographic service area. If the parties choose this option and either party subsequently fails to meet this requirement, both parties' licenses are subject to forfeiture without further Commission action. Under the second option, both parties must certify either that the disaggregator or the disaggregatee will meet the substantial service requirement for the geographic service area.[414] As provided by another provision of our Part 27 rules, the other licensee must also make a showing of substantial service at the end of the license term.[415]

181. In the *700 MHz Commercial Services Notice*, we sought comment on whether to change any aspect of Section 27.15 on partitioning and disaggregation in order to help ensure the provision of service to consumers, including any rural areas that are part of a partitioned or disaggregated license.[416] We received no comments regarding how the Commission should or might revise these rules.

182. Discussion. Upon examination of the existing partitioning and disaggregation rules set forth in Section 27.15(d), and in consideration of stricter performance obligations we are establishing (as discussed above), we amend our rules to clarify how those obligations will apply to the partitioning and disaggregation of 700 MHz Commercial Services licenses that remain to be auctioned. In particular, having adopted stricter performance requirements for these licensees, we establish how these rules will work with regard to the four-year and the end-of-term benchmarks and the "keep-what-you-use" policies discussed above. These amendments concern only the specific rules in Section 27.15(d) as they apply to the new 700 MHz Commercial Services licenses, and only those Section 27.15 rules that specifically concern construction requirements in the context of partitioning and disaggregation.[417]

183. These modifications seek to continue to provide flexibility to licensees and third parties to enter into partitioning and disaggregation arrangements that will, *inter alia,* facilitate the provision of new services to consumers, including consumers in unserved and underserved areas. They also are

[411] *CMRS Partitioning and Disaggregation Order*, 11 FCC Rcd at 21864 ¶ 61.

[412] 47 C.F.R. § 27.15(d)(1).

[413] 47 C.F.R.§ 27.14(a) (every Part 27 licensee must establish substantial service at the end of the license term).

[414] 47 C.F.R. § 27.15(d)(2).

[415] 47 C.F.R. § 27.14(a) (every Part 27 licensee must establish substantial service at the end of the license term).

[416] *Id.*

[417] Specifically, we will keep in place for new 700 MHz Commercial Services licensees the other existing Section 27.15 rules pertaining to geographic partitioning and spectrum disaggregation – Sections 27.15(a), (b), and (c). These sections address eligibility, technical standards, and license term.

consistent with our goal of ensuring that this 700 MHz spectrum is used at least to the same extent as it would have been had partitioning or disaggregation not occurred.

184. *Partitioning.* Under our modifications of the Section 27.15(d) rules relating to geographic partitioning of new 700 MHz Commercial Services licenses, we establish two options for partitioners and partitionees with regard to the newly adopted performance requirements discussed above.

185. Under the first option, the partitioner and partitionee must each certify to the Commission that they will share responsibility for meeting the performance requirements for the entire original geographic license area. Under this option, the partitioner, partitionee, or both the partitioner and partitionee working together, can meet the four-year and end-of-term construction benchmarks for the entire geographic license area.[418] If the parties meet the end-of-term construction benchmarks, they will retain the ability to continue to build out the unserved portion of their license areas. Parties that fail to meet the end-of-term benchmarks will be subject to a "keep-what-you-use" rule, under which they will lose their authorization for unserved portions of their license areas, which will automatically cancel and return to the Commission for reassignment. This option enables parties to share the cost of meeting the stricter buildout benchmarks as required by the Commission under its new performance requirements, while ensuring that buildout will occur over the original license area to the same extent as it would have occurred had the license never been partitioned.

186. Under the second option, the partitioner and partitionee must each certify that it will independently meet the applicable performance requirements for its respective partitioned service area.[419] If the partitioner or partitionee fails to meet the four-year build-out requirement for its respective partitioned service area, then its license term will be reduced by two years.[420] If the parties meet the end-of-term construction benchmarks, they will retain the ability to continue to build out the unserved portion of their license areas. Parties that fail to meet the end-of-term benchmarks will be subject to a "keep-what-you-use" rule, under which they will lose their authorization for unserved portions of their license areas, which will automatically cancel and return to the Commission for reassignment. This option provides a way for partitioners and partitionees to ensure that their licenses will not be affected by the other party's conduct with regard to meeting the applicable performance requirements.

187. *Disaggregation.* With regard to the rules relating to disaggregation of new 700 MHz Commercial Services Band licenses, we modify Section 27.15(d) to provide that the disaggregator, disaggregatee, or both the disaggregator and disaggregatee working together, can meet the four-year and end-of-term construction benchmarks for the entire geographic license area.[421] If either of the parties meets the four-year build-out requirement, then this requirement is considered to be satisfied for both parties. If neither of the parties meets the four-year build-out requirement, then each of their license

[418] For applications seeking Commission approval for license partitioning that would occur before the four-year performance requirements have become due, the partitioner and partitionee each must certify that they will share responsibility for meeting the four- and ten-year benchmarks for the original geographic license area. For applications seeking Commission approval for license partitioning after the four-year benchmark has been met, both parties must certify that they will share responsibility for meeting the ten-year build-out requirement.

[419] If the parties choose this option and enter into a partitioning agreement before the four-year build-out requirements have become due, then each party must certify that it will meet both the four- and ten-year build-out requirements for its respective partitioned geographic license area. If the parties enter into a partitioning agreement after the four-year construction benchmark has been met, then each party must certify that it will meet the ten-year build-out requirement for its respective partitioned license area.

[420] To the extent that a REAG licensee partitions a license, and the four-year construction benchmark is not met with regard to any EA area, the REAG licensee's license term would be reduced to eight years, thus requiring that the licensee meet the end-of-term benchmark at an accelerated schedule.

[421] For a disaggregation that would occur before the four-year build-out requirement is due, the disaggregator, disaggregatee, or both the disaggregator and disaggregatee working together must meet the four- and ten-year benchmarks for the geographic license area. For disaggregation that would occur after the interim four-year benchmark has been met, the disaggregator, disaggregatee, or both the disaggregator and disaggregate working together must meet the ten-year build-out requirement.

terms will be reduced by two years.[422] Similarly, if either of the parties meets the end-of-term build-out requirement, then this requirement is considered to be satisfied for both parties, and they will retain the ability to continue to build out the unserved portion of their license areas. However, parties that fail to meet the end-of-term benchmarks will be subject to an automatic "keep-what-you-use" rule, under which they will lose their authorization for unserved portions of their license areas, which will automatically cancel and return to the Commission for reassignment..

188. This approach to our build-out requirements in the disaggregation context will not create additional burdens for these arrangements because the parties need build out only to the same extent as would have occurred if the spectrum for this area had not been disaggregated. This approach also provides the opportunity for parties to enter into disaggregation agreements where they would share the cost of meeting the construction requirement. By ensuring that the performance obligation remains on both parties, we provide greater assurance that the disaggregation agreement will result in compliance with these requirements. In addition, we note that either party is able to satisfy our build-out requirements independently in the disaggregation context because each will hold spectrum over the entire geographic area.

(iii) Open Platforms for Devices and Applications

189. Background. In the *700 MHz Further Notice*, we sought comment on a proposal filed by PISC that licenses for at least 30 megahertz of the unauctioned commercial 700 MHz Band spectrum bear a condition requiring a licensee to provide open platforms for devices and applications.[423] PISC described its proposal as including the right of a consumer to use any equipment, content, application, or service on a non-discriminatory basis.[424] PISC subsequently expanded its proposal to recommend that these requirements should apply to all 60 megahertz of the unauctioned spectrum.[425]

190. PISC argues that "incumbent wireless carriers . . . routinely choke bandwidth to users, cripple features, and control the user experience" in order to protect their wireline broadband offerings (*e.g.*, DSL and cable modem).[426] Supporters offer many examples of such restrictions, including restrictions on the use of Voice Over Internet Protocol (VoIP), webcams, and other media devices.[427] Frontline cites the Apple iPhone device, which is designed to work exclusively on one provider's network.[428] Other commenters refer to the record in a rule making proceeding requested by Skype Communications S.A.R.L (Skype), where, as here, commenters complain that incumbent wireless service providers impose restrictions on a range of devices and features, such as VoIP,[429] and "routinely choke bandwidth to users, cripple features, and control the user experience."[430] In addition, Wireless Founders

---

[422] Similar to the rules applicable to partitioning discussed above, to the extent that a REAG licensee disaggregates a license and the four-year construction benchmark is not met with regard to any EA area, the REAG licensee's license term would be reduced to eight years, thus requiring that the licensee meet the end-of-term benchmark at an accelerated schedule.

[423] The *Ad Hoc* Public Interest Spectrum Coalition consists of the Consumer Federation of America, Consumers Union, Free Press, Media Access Project, New America Foundation, and Public Knowledge.

[424] PISC's proposal for the 700 MHz Band generally is more extensive than a similar proposal by Frontline for open access in a portion of the Upper 700 MHz spectrum Frontline proposes to be used for a public/private partnership license. *See 700 MHz Further Notice*, 22 FCC Rcd at 8167-68 ¶ 290.

[425] PISC *700 MHz Further Notice* Comments at 12.

[426] PISC *700 MHz Further Notice* Comments at 7.

[427] WFCI June 7 Ex *Parte* at 4.

[428] Frontline *700 MHz Further Notice* Comments at 21-22.

[429] MoveOn.org June 4, 2007 Reply Comments at 1; Skype July 10, 2007 *Ex Parte* at 3.

[430] PISC *700 MHz Further Notice* Comments at 7. Handset or phone "locking," for example, is one practice that arguably prevents consumers from migrating otherwise technically compatible equipment from one wireless service provider to another. Providers claim that it is a practice designed to combat fraud. *See* Verizon Wireless July 25 *Exempt Ex Parte*, Attach. at 22-23, and Verizon Wireless July 27 *Exempt Ex Parte* at 2 (locking restrictions should (continued....)

Coalition for Innovation (WFCI) also complains that wireless providers impose an "arduous," "difficult and time-consuming" set of qualification and approval processes before applications can be run or devices attached to a network.[431]

191. Proponents argue that without mandated open access, wireless broadband service is unlikely to develop into a vigorous competitor for existing wireline broadband services, because incumbent wireless service providers owned by wireline companies will instead limit the quality of their wireless broadband offerings to protect their wireline broadband offerings.[432] These commenters credit the open access model with creating a competitive environment in which independent service and equipment providers flourished in this country under the *Carterfone* decision,[433] the *Computer Proceedings*, and the 1996 Telecommunications Act.[434] They argue that the 700 MHz open access policies they advocate will facilitate competitive entry for both wireless service providers and Internet service providers, which will foster innovation, enhance services, and lower prices.[435] For example, Google maintains that the only way to guarantee new broadband platforms is through open platform requirements: open applications, open devices, open services, and open networks.[436]

192. On the other hand, opponents dispute the need for open access requirements and argue that these requirements could have adverse consequences. They maintain that, unlike the monopoly wireline market in which the *Carterfone* decision was based, there is effective competition in the mobile wireless market and that auction of the remaining commercial 700 MHz Band spectrum will provide opportunities for additional competitors.[437] Opponents assert that open access advocates exaggerate the

(Continued from previous page) ———————————
be limited to locking or programming a device to prevent a user from activating device on another carrier's network); *see also, e.g.*, the following comments filed in the Skype proceeding, RM-11361: PISC Comments at ii, 8; API Comments at 2; Consumers Union at i, 2-5, 11; NASUCA Comments at 3; PPH Comments at 2-3; PISC Comments at 2-3, 8; Ram Fish Comments at 3, 9; BT Americas Reply Comments at 1, 8-10, 12; NASUCA Reply Comments at 5.

[431] WFCI July 3, 2007 *Ex Parte*, Attach. at 1-11.

[432] PISC *700 MHz Further Notice* Comments at 15, 22-26; MoveOn.org *700 MHz Further Notice* Reply Comments at 1; *see also* CCIA *700 MHz Further Notice* Comments at 6; Frontline *700 MHz Further Notice* Comments at 21-22; Google *700 MHz Further Notice* Comments at 2; Frontline *700 MHz Further Notice* Comments on Google's Comments at 4; WFCI *700 MHz Further Notice* Comments at 3.

[433] *Use of the Carterfone Device in Message Toll Telephone Service*, 13 FCC 2d 420 (1968).

[434] *See, e.g.*, PISC *700 MHz Further Notice* Comments at 16-19; Vanu *700 MHz Further Notice* Comments at 4; Google June 9, 2007 *Ex Parte* at 5-6; *see also* Frontline *700 MHz Further Notice* Comments at 22. In addition, approximately 250,000 individual citizens filed brief comments both during and after the formal comment periods asking the Commission to ensure that large corporations will not stifle competition and innovation in Internet markets over U.S. airwaves, and to set aside at least 30 MHz of spectrum for open and non-discriminatory Internet access.

[435] *See, e.g.*, PISC *700 MHz Further Notice* Comments at 20-22; Vanu *700 MHz Further Notice* Comments at 5; The Coalition for 4G in America July 20 *Ex Parte* at 1; Public Knowledge July 23 *Ex Parte* at 4-7; *see also* Frontline *700 MHz Further Notice* Comments at 21; Frontline *700 MHz Further Notice* Reply Comments at 32.

[436] Google July 9 *Ex Parte* at 4-8.

[437] CTIA *700 MHz Further Notice* Comments at 24; Dobson *700 MHz Further Notice* Comments at 9-10; MetroPCS *700 MHz Further Notice* Comments at 39; Qualcomm *700 MHz Further Notice* Comments at 11-12; CTIA *700 MHz Further Notice* Reply Comments at 10, 13; MetroPCS *700 MHz Further Notice* Reply Comments at 25-27; Qualcomm *700 MHz Further Notice* Reply Comments at 5; T-Mobile *700 MHz Further Notice* Reply Comments at 4-5, 7-9; TCA *700 MHz Further Notice* Reply Comments at 4-5; Verizon Wireless *700 MHz Further Notice* Reply Comments at 15; *see also* MetroPCS *700 MHz Further Notice* Reply Comments at 35-36; Verizon Wireless *700 MHz Further Notice* Comments at 46; U.S. Cellular July 24, 2007 *Ex Parte* at 2; Verizon July 25 *Exempt ex parte*, attaching Verizon's Comments in RM-11361. *Cf.* AT&T *700 MHz Further Notice* Comments at 22, 28-33; AT&T *700 MHz Further Notice* Reply Comments at 3-6. We note that although AT&T's comments and reply comments generally opposed "open access," in recent filings AT&T states that it supports a limited access requirement so long as there are safeguards addressing its earlier concerns. AT&T July 20 *Ex Parte*, Attach. at 2.

restrictions wireless providers impose on consumers,[438] and to the extent providers do engage in such practices, such practices are reasonable measures to protect the integrity and efficiency of wireless networks.[439] In addition, some commenters argue that imposing open access requirements would directly contradict Commission findings that bundling mobile handsets with wireless service contracts increases wireless penetration, and that subjecting wireless broadband Internet access service providers to access, price, or unbundling mandates is a disservice to consumers.[440] Verizon Wireless maintains that the "incumbent advantages" cited by Google are not anticompetitive, and result from high-risk capital investments in a competitive market.[441]

193. Opponents also challenge open access requirements as a throwback to an obsolete "command-and-control" regulatory regime, which they see as unnecessarily restricting mobile wireless licensees' flexibility to adapt to market conditions and effectively compete.[442] Verizon Wireless argues that imposing an open access business model undermines the auction process and competitive bidding, which is designed to identify those bidders who place the highest value on the licenses to ensure that this scarce resource is not wasted or underexploited.[443] Verizon Wireless asserts that imposing open access regulations runs contrary to the Commission's "light regulatory touch" for wireless services generally, and is inconsistent with the Commission's prior determinations regarding the regulation of broadband services.[444] According to Verizon Wireless, requiring winners of licenses in the 22 MHz block to provide open access would impose an asymmetrical regulatory regime on only one segment of the industry, thus drawing arbitrary distinctions by treating those licensees differently than other 700 MHz licensees, other wireless providers and/or broadband Internet access providers.[445] Also, according to Verizon Wireless, the Commission cannot impose access requirements without violating various sections of the Communications Act and affecting the First Amendment rights of existing providers. AT&T, on the other hand, maintains that open access requirements for the 700 MHz C Block would enable the introduction of an alternative wireless business model without requiring changes in the business models of AT&T (and others) in the highly competitive wireless industry.[446] According to AT&T, the proposal

---

[438] *See, e.g.*, CTIA July 19, 2007 *Ex Parte* at 1-2 (noting CTIA's demonstration of handsets from four largest wireless carriers with integrated open Wi-Fi connectivity as well as ability to "easily run Skype application").

[439] CTIA *700 MHz Further Notice* Comments at 23-24; Dobson *700 MHz Further Notice* Comments at 10-11; Qualcomm *700 MHz Further Notice* Comments at 12; MetroPCS *700 MHz Further Notice* Reply Comments at 28-31; T-Mobile *700 MHz Further Notice* Reply Comments at 10; *see also* Verizon Wireless *700 MHz Further Notice* Comments at 46-48; Verizon Wireless *700 MHz Further Notice* Reply Comments at 21-22.

[440] *See, e.g.*, Verizon Wireless July 24 *Ex Parte* at 4.

[441] Verizon Wireless July 24 *Ex Parte* at 3.

[442] CTIA *700 MHz Further Notice* Comments at 24; Dobson *700 MHz Further Notice* Comments at 10; MetroPCS *700 MHz Further Notice* Comments at 39-40; Qualcomm *700 MHz Further Notice* Comments at 12; AT&T *700 MHz Further Notice* Reply Comments at 3, 13-17; MetroPCS *700 MHz Further Notice* Reply Comments at 25, 27-28,40; Qualcomm *700 MHz Further Notice* Reply Comments at 6; T-Mobile *700 MHz Further Notice* Reply Comments at 9; TCA *700 MHz Further Notice* Reply Comments at 5; *see also* CTIA *700 MHz Further Notice* Comments at 17-19; Verizon Wireless *700 MHz Further Notice* Comments at 46-47; MetroPCS *700 MHz Further Notice* Reply Comments at 40; Verizon Wireless *700 MHz Further Notice* Reply Comments at 19-20.

[443] *See, e.g.*, Verizon Wireless July 24 *Ex Parte* at 2-3; MetroPCS July 16 *Ex Parte* at 1-2; *see also* CTIA June 29 *Ex Parte* at 2 (open access proposals are premature); *cf.* Wireless Internet Service Providers Ass'n July 12 *Ex Parte* at 1 (opposed to open access proposals in markets where bidding credits are available, but notes that open access for larger geographic spectrum blocks would provide opportunity for new entrants).

[444] Verizon Wireless July 24 *Ex Parte* at 7-8.

[445] Verizon Wireless July 24 *Ex Parte* at 9-12. Verizon Wireless compares the 22 MHz block licensees to the AWS-1 licensees, where open access requirements were not imposed, arguing that spectrum allocation was intended for the same type of service as 700 MHz and therefore these licensees should have the same regulatory requirements.

[446] AT&T July 20 *Ex Parte*, Attach. at 1-2.

provides an opportunity for new entrants to bid and test their business models in the marketplace.[447]

194. Several commenters also note that PISC's proposal involves issues also raised in the *Broadband Practices* proceeding[448] and in the Skype Petition.[449] Opponents of open access argue that such proposals affect the wireless industry at large, not just parties interested in the 700 MHz Band spectrum, and are more appropriately considered in a forum with a broad perspective.[450] In the *Broadband Practices* proceeding, we are exploring the nature of the market for broadband and related services, including whether consumer choice of broadband providers is sufficient to ensure that certain broadband policies ultimately benefit consumers and whether any regulatory intervention is necessary.[451] The *Broadband Practices* proceeding is premised on an earlier Commission policy statement setting out the following principles to encourage broadband deployment, and to preserve and promote the open and interconnected nature of the public Internet to all consumers: (1) consumers are entitled to access the lawful Internet content of their choice; (2) consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement; (3) consumers are entitled to connect their choice of legal devices that do not harm the network; and (4) consumers are entitled to competition among network providers, application and service providers, and content providers.[452] The Skype Petition asks the Commission to: (a) declare that wireless services are subject to *Carterfone* principles that consumers have the right to attach any non-harmful device of their choosing to the network and run Internet applications of their choosing;[453] and (b) enforce those principles by initiating a rule making proceeding to determine whether wireless service providers are acting consistently with the *Carterfone* principles.[454]

195. Discussion. Although we generally prefer to rely on marketplace forces as the most efficient mechanism for fostering competition, we conclude that the 700 MHz spectrum provides an important opportunity to apply requirements for open platforms for devices and applications for the benefit of consumers, without unduly burdening existing services and markets. For the reasons described below, we determine that for one commercial spectrum block in the 700 MHz Band – the Upper 700 MHz Band C Block – we will require licensees to allow customers, device manufacturers, third-party application developers, and others to use or develop the devices and applications of their choice, subject to certain conditions, as described further below. We conclude, however, that it would not serve the public interest to mandate, at this time, requirements for open platforms for devices and applications for all unauctioned commercial 700 MHz spectrum, or to impose broader requirements, such as wholesale or interconnection requirements, for the C Block.

---

[447] AT&T July 20 *Ex Parte*, Attach. at 2; *but see* CTIA June 29 *Ex Parte* at 1-2 (open access proposals effectively remove availability of spectrum to small and rural providers); MetroPCS July 16, 2007 *Ex Parte* at 2.

[448] Broadband Industry Practices, WC Docket No. 07-52, *Notice of Inquiry*, 22 FCC Rcd 7894 (2007) (*Broadband Practices*).

[449] *Petition to Confirm a Consumer's Right to Use Internet Communications Software and Attach Devices to Wireless Networks*, RM-11361 (filed Feb. 20, 2007) (*Skype Petition*). Our discussion of the Skype Petition herein is not intended to weigh the merits of Skype's request.

[450] CTIA *700 MHz Further Notice* Comments at 24-25; MetroPCS *700 MHz Further Notice* Comments at 40; TIA *700 MHz Further Notice* Comments at 8-9; Verizon Wireless *700 MHz Further Notice* Comments at 48-49; AT&T *700 MHz Further Notice* Reply Comments at 4; CTIA *700 MHz Further Notice* Reply Comments at 13; T-Mobile *700 MHz Further Notice* Reply Comments at 10; *see also* CTIA *700 MHz Further Notice* Comments at 18; MetroPCS *700 MHz Further Notice* Reply Comments at 40.

[451] *Broadband Practices*, 22 FCC Rcd at 7894.

[452] Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, CC Docket No. 02-33, *Policy Statement*, 20 FCC Rcd 14986, 14988 (2005) (*Broadband Policy Statement*).

[453] *Skype Petition* at 9-12; *see Use of the Carterfone Device in Message Toll Telephone Service*, 13 FCC 2d 420 (1968). Skype states that it offers consumers a way to reduce the costs of their conversations through VoIP and in so doing, stimulates demand for wireless networks. It also claims that it has mobile versions of its software that are optimized for wireless networks. Skype *Skype Petition* Reply Comments at 15-16.

[454] *Skype Petition* at 28-32.

196. Rapid deployment and ubiquitous availability of broadband services across the country are among the Commission's most critical policy objectives. Broadband technology is a key driver of economic growth. The ability to share increasing amounts of information at greater speeds increases productivity, facilitates interstate commerce, and drives innovation. Perhaps most important, broadband is changing how we communicate with each other, how and where we work, how we educate our children, and how we entertain ourselves.

197. Wireless service is becoming an increasingly important platform for broadband access. Over the past few years, U.S. service providers have been moving beyond second-generation (2G) wireless network technologies to deploy next-generation, or third-generation (3G), network technologies. These technologies enable them to offer data services at higher data transfer speeds, and to offer mobile broadband services that provide for a variety of new capabilities and services, including broadband Internet access. As part of this evolution, "cell phones" are evolving into multi-media devices capable of surfing the web, sending e-mails, playing songs, taking pictures, playing games, and streaming video. As these devices become more sophisticated, consumers have more opportunities to access broadband services both at home and on the go.

198. Although wireless broadband services have great promise, we have become increasingly concerned that certain practices in the wireless industry may constrain consumer access to wireless broadband networks and limit the services and functionalities provided to consumers by these networks. In our *Wireless Broadband Classification Order*, we recognized that wireless IP-based multimedia content and services are typically sold through a service provider-branded, service provider-controlled portal.[455] We also noted that "in some cases, providers use filters to limit the web sites that a customer can access, and, in other cases, subscribers can enter any URL using a handset but the site may not be viewable due to software, processing, or other constraints of the device."[456] In contrast, wireless broadband Internet access services for laptop computers typically allow consumers to access the same applications that would be available had they chosen a cable or wireline broadband Internet access connection.

199. We are also concerned that wireless service providers appear to have required that equipment manufacturers disable certain capabilities in mobile devices, such as Wi-Fi capabilities. Technologically, mobile devices capable of accessing 3G wireless networks can also incorporate broadband Wi-Fi capabilities.[457] The inclusion of Wi-Fi capabilities in 3G wireless devices could improve the consumer experience by providing faster broadband data rates in the vicinity of Wi-Fi "hotspots" and reducing network congestion. Despite these technological possibilities and potential consumer advantages, wireless handsets with Wi-Fi capabilities have been largely unavailable in the United States for reasons that appear unrelated to reasonable network management or technological necessity.

200. The Commission generally relies on the competitive marketplace to deliver the benefits of choice, innovation and affordability to American consumers, and regulates only when market driven forces alone may not achieve broader social goals. The Commission has found that the Commercial Mobile Radio Services (CMRS) market is effectively competitive, and that competitive pressures continue to result in the introduction of innovative pricing plans and service offerings.[458] We have not found, however, that competition in the CMRS marketplace is ensuring that consumers drive handset and application choices, especially in the emerging wireless broadband market. For example, while it is easy for consumers to differentiate among providers by price, most consumers are unaware when carriers

[455] *See* Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks, WT Docket No. 07-53, *Declaratory Ruling*, 22 FCC Rcd 5901, 5908 ¶ 16 (2007).

[456] *Id.*

[457] Tim Wu, *Wireless Net Neutrality: Cellular Carterfone and Consumer Choice in Mobile Broadband*, New America Foundation, Feb. 2007, at 9-12 <http://ssrn.com/abstract=962027>.

[458] Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, WT Docket No. 06-17, *Eleventh* Report, 21 FCC Rcd 10947, 10950 ¶¶ 2-3 (2006) (*Eleventh Annual CMRS Competition Report*).

block or degrade applications and of the implications of such actions, thus making it difficult for providers to differentiate themselves on this score.[459] As a result, while many commenters assert that market forces require that wireless providers support handsets and applications that consumers want,[460] there is evidence that wireless service providers nevertheless block or degrade consumer-chosen hardware and applications without an appropriate justification.[461]

201. We do not decide in this proceeding whether competition in the CMRS market generally is sufficient to ensure that consumers have the ability to use wireless devices and applications of their choice in the emerging wireless broadband market, especially since these questions are being considered more broadly in other proceedings.[462] Given the nature of this spectrum and the lack of additional similar spectrum capacity that can be made available in the near future, however, what we decide here is important to the evolution of the next generation of wireless technology, industry structure and institutional arrangements. This auction provides a window of opportunity to have a significant effect on the next phase of mobile wireless technological innovation, and on the evolution of market and institutional arrangements—such as arrangements regarding open platforms for devices and applications to the benefit of consumers —that will go along with that innovation. As a result, in light of the evidence suggesting that wireless service providers are blocking or degrading consumer-chosen hardware and applications without an appropriate justification, we believe that it is appropriate to take a measured step to encourage additional innovation and consumer choice at this critical stage in the evolution of wireless broadband services, by removing some of the barriers that developers and handset/device manufacturers face in bringing new products to market. By fostering greater balance between device manufacturers and wireless service providers in this respect, we intend to spur the development of innovative products and services.

202. To promote innovation in this spectrum band from the outset, we find it is reasonable to impose certain conditions on the C Block in the Upper 700 MHz Band to provide open platforms for devices and applications. While the Commission strives to apply a consistent regulatory framework to like services, that does not obligate us to treat all spectrum-based services identically.[463] The Commission has applied different spectrum regulatory models as warranted by different market conditions, ranging from licenses that largely grant exclusive rights to use the spectrum to unlicensed approaches in which access to the spectrum is open and subject to minimal rules.[464] Particularly in developing markets, regulatory policies have played an important role in encouraging new competitive services to emerge. Many technologies, such as Wi-Fi services, have developed as a result of regulatory policies established

---

[459] Tim Wu, *Wireless Net Neutrality: Cellular Carterfone and Consumer Choice in Mobile Broadband*, New America Foundation, Feb. 2007, at 38 http://ssrn.com/abstract=962027 ("[T]aking the time to do comparisons on the basis of whether the carrier cripples technological feature sets is something only a select group of consumers have the time or expertise to do.").

[460] *See, e.g.*, Verizon Wireless July 25 *Ex Parte*, Attachment at 7-15.

[461] *See, e.g.*, PISC *700 MHz Further Notice* Comments at 7; MoveOn.org Reply Comments at 1.

[462] We note, for example, that the competitive characteristics of the wireless voice market may not be the same as those of the wireless broadband market.

[463] We disagree with Verizon Wireless's contention that an open access requirement would be inconsistent with the Commission's precedent of deregulating broadband services and treating broadband platforms similarly. Verizon Wireless July 23 *Ex Parte* at 7-8. As we note below, the Commission has not yet made a finding regarding whether to apply open access requirements to wireless broadband services generally, and in this *Order*, defers that determination to the appropriate pending proceedings.

[464] *See, e.g.*, Unlicensed Operation in the TV Broadcast Bands, , ET Docket No. 04-186, *First Report and Order and Further Notice of Proposed Rule Making*, 21 FCC Rcd 12266 (2006) (*Unlicensed Operation in the TV Broadcast Band First Report and Order*); Wireless Operations in the 3650-3700 MHz Band, ET Docket No. 04-151, *Memorandum Opinion and Order*, 22 FCC Rcd 10421, 10425-30 (2007) (*3650 MHz Reconsideration Order*); Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems, ET Docket No. 98-153, *First Report and Order*, 17 FCC Rcd 7435, 7441-46 (2002).

by the Commission in particular spectrum bands. Rather than adopt a single regulatory model to assign spectrum rights in all bands, the Commission has pursued a balanced spectrum policy that recognizes that, in certain instances, it may be necessary to vary the regulation of spectrum use to achieve certain critical public interest objectives.[465]

203. We are taking a similarly balanced approach here by requiring the licenses for one of the remaining spectrum blocks to be auctioned to provide open platforms for devices and applications. We are mindful that some of the restrictive practices set forth in the record appear to be used by wireless service providers for purposes other than simply protecting the network from harm. We also recognize supporters' argument that the 700 MHz Band offers an opportunity to encourage innovation in network devices and applications in spectrum with valuable propagation characteristics, without adversely affecting 700 MHz Band licensees' network operations or viability.[466] The 700 MHz Band provides a rare opportunity to implement pro-consumer concepts without disrupting an existing service, given that there will not be any incumbents in the band after the DTV transition and that bidders for the spectrum will have notice of these obligations at the outset. In these circumstances, we conclude that prohibiting a provider's ability to unreasonably limit applications and devices on its network in a portion of the 700 MHz Band is both appropriate and feasible.

204. We believe that the C Block is the most reasonable block for applying a new regulatory model that attempts to give consumers additional choices. The C Block is a large 22-megahertz block (comprised of paired 11-megahertz blocks). As discussed above, we believe that a block of this size and scope will provide an environment conducive to the development and deployment of 4G services designed to compete with wireline broadband alternatives. Imposing such a requirement on a band with these characteristics should provide an opportunity for innovators and entrepreneurs to develop equipment and applications that require substantial bandwidth to realize their full potential. It should also provide sufficient potential market penetration to attract investment and achieve economies of scale in the equipment marketplace. Without access to a block capable of supporting high data rates and the potential for substantial market penetration, the requirements we impose here would be less likely to result in rapid innovation at the edge of the network. Thus, more than any other spectrum block in the 700 MHz Band, it is the C Block that would benefit from our intervention to help ensure that access to anticipated 4G services is not unduly inhibited or foreclosed.

205. While we adopt a requirement for the C Block licensees to provide open platforms for devices and applications, we decline at this time to impose these same principles or other openness obligations broadly in the 700 MHz Band, as recommended in PISC's open access and Google's broader proposals.[467] Given the state of the record, we believe that a more measured approach is appropriate. While the open platform requirement for devices and applications in the C Block holds the potential to foster innovation, we cannot rule out the possibility that such a requirement may have unanticipated drawbacks as well. Therefore, we think that it is appropriate to impose the open platform requirement only on a limited basis. While the record in this proceeding regarding the potential merits or drawbacks of the open platform requirement for devices and applications is not so clear as to warrant adopting such conditions for the entire 700 MHz Band, the approach that we take today will allow both the Commission and industry to observe the real-world effects of such a requirement. Moreover, we note that to the extent

---

[465] *3650 MHz Reconsideration Order*, 22 FCC Rcd 10421 (2007); Unlicensed *Operation in the TV Broadcast Bands First Report and Order*, 21 FCC Rcd 12266 (2006); Spectrum Policy Task Force Report, ET Docket No. 02-135 (2002). Also see the special requirements adopted herein for the Upper 700 MHz D Block, related to its operation under a Public/Private Partnership.

[466] *E.g.*, PISC notes that the licensing of the new 700 MHz spectrum presents a unique opportunity to affirmatively facilitate the creation of new broadband competitors. PISC also claims that favorable propagation characteristics of the 700 MHz spectrum—compared with the higher frequencies allocated to the PCS, AWS and unlicensed wireless services—could make this spectrum "many consumers' primary source of high speed Internet access and low-cost voice service." PISC *700 MHz Further Notice* Comments at 14-15, and App. A at 15.

[467] *See* PISC *700 MHz Further Notice* Comments at 12-29 (urging adoption of wholesale service, net neutrality and *Carterfone* requirements); Google July 9 *Ex parte* at 4-9 (advocating "open platform" requirements).

the results of our C Block requirements prove attractive to consumers, we would anticipate that providers in other 700 MHz Band blocks and other bands will have competitive incentives to offer similar choices. We disagree with PISC's suggestions that the wireless market is not competitive.[468] We also reject Google's argument that mandatory wholesale and other broad regulatory models are necessary at this time to provide incentives for new entry and innovation. We have not established wireless regulatory policies based solely on "leveling the playing field" against incumbent operators, as suggested by Google, and we decline to do so here.[469] In addition, the record is not sufficient to adopt broader obligations here or even to decide the specifics of such mandates.

206. Accordingly, consistent with the broadband principles set out above, we will require only C Block licensees to allow customers, device manufacturers, third-party application developers, and others to use or develop the devices and applications of their choosing in C Block networks, so long as they meet all applicable regulatory requirements and comply with reasonable conditions related to management of the wireless network (*i.e.*, do not cause harm to the network). Specifically, a C Block licensee may not block, degrade, or interfere with the ability of end users to download and utilize applications of their choosing on the licensee's C Block network, subject to reasonable network management. We anticipate that wireless service providers will address this requirement by developing reasonable standards, including through participation in standards setting organizations, as discussed below. Finally, for the reasons noted above, we will not impose additional requirements on the C Block, including wholesale and interconnection requirements.

207. *Commission's Authority to Impose Requirements for Open Platforms for Devices and Applications.* As a general matter, the Commission has the authority to establish license conditions and operational obligations, such as the requirements we adopt here, if the condition or obligation will further the goals of the Communications Act without contradicting any basic parameters of the agency's authority.[470] As we have demonstrated above, the record is sufficient to conclude that current practices in the industry may be impeding the development and deployment of devices and applications that consumers want to use. Thus, a requirement to allow consumer use of any such devices and applications (limited by reasonable requirements to protect the network and to enable the wireless service provider to comply with its regulatory obligations) in a band like the C Block holds the potential to foster the development of innovative devices and applications, and as a result, promises to benefit consumers. This type of initiative – in terms of purpose, scope, and method of implementation – falls squarely within a number of the Commission's statutory sources of authority.[471]

---

[468] *Eleventh Annual CMRS Competition Report*, 21 FCC Rcd at 10950-51 ¶¶ 1-5, 11029-31 ¶¶ 213-216.

[469] Google July 9 *Ex Parte* at 4 (supporting the need for open access to level the playing field because of large incumbents' "significant built-in advantages [of] economic and operational barriers to entry"); Verizon Wireless July 24 *Ex Parte* at 2 (opposing Google's "level playing field" argument). The Commission has historically required that, to the extent practical, technical and operational rules should be comparable for CMRS services. However, we have also recognized that with different policy goals – or under different circumstances – we may come to different conclusions regarding the extent of competition. *See Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services*, 9 FCC Rcd 7988, ¶ 14 (1994).

[470] *See, e.g.*, 47 U.S.C. § 303 (stating that if "the public convenience, interest, or necessity requires [, the Commission] shall . . . (r) . . . prescribe such restrictions and conditions, not inconsistent with law, as may be necessary to carry out the provisions of this Act"); *Schurz Communications, Inc. v. FCC*, 982 F.2d 1043, 1048 (7th Cir. 1992) (Communications Act invests Commission with "enormous discretion" in promulgating licensee obligations that the agency determines will serve the public interest).

[471] *See, e.g.*, 47 U.S.C. § 309(j)(3) (requiring that, "in specifying eligibility and other characteristics of . . . licenses [to be issued by competitive bidding] . . . , and in designing the methodologies for use under this subsection, the Commission shall include safeguards to protect the public interest in the use of the spectrum and shall seek to promote the purposes specified in section 1 of this Act and [in six] . . . objectives [enumerated in subsection (j)(3)(A)-(F)]"); 47 U.S.C. § 309(j)(3)(A) & (D) (listing as subsection (j)(3) objectives "(A) the development and rapid deployment of new technologies, products, and services for the benefit of the public . . . without administrative or judicial delays; . . . [and] (D) efficient and intensive use of the electromagnetic spectrum"); 47 U.S.C. § 151 [Section 1 of the Communications Act] (stating that one of the purposes for the creation of the FCC is to foster "a (continued....)

208. Verizon Wireless raises a host of legal arguments with respect to the Commission's statutory authority to implement such open access requirements. It argues, among other things, that open access requirements for wireless services place unnecessary burdens on the wireless industry and impair the value of the affected spectrum, and that therefore such regulation is contrary to the public interest as well as inconsistent with various goals specified in the Communications Act, including Section 309(j).[472] It challenges our authority to impose open access requirements on the ground that such requirements would be inconsistent with various Title III-based obligations, such as E911 requirements.[473] It also argues that imposing open access requirements is inconsistent with the Commission's prior determinations regarding the regulation of broadband services,[474] violates various sections of the Communications Act, and affects the First Amendment rights of existing providers.[475] Finally, Verizon Wireless asserts that we are setting aside this spectrum as a "pioneer's preference block," or providing a special bidding credit to new entrants in the upcoming auction for this spectrum.[476]

209. Verizon Wireless's arguments fail for two primary reasons: (1) many of its arguments are directed at a broader set of openness requirements than those that we adopt here; and (2) Verizon Wireless's other arguments are either based on erroneous interpretations of relevant statutory provisions or erroneous factual assumptions.

210. To begin with, many of Verizon Wireless's objections focus on broader openness requirements than what is contemplated here. Thus, Verizon Wireless argues that the Commission is attempting to impose the same regulatory access model on wireless service providers that Congress, in the Section 251 interconnection provisions of the Communications Act, applied to the ILECs. According to Verizon Wireless, this approach contradicts the Commission's "Congressional mandate to apply a light regulatory touch to the wireless industry" and would "unwind the careful regulatory balance struck by Congress by applying ILEC obligations piecemeal on non-ILECs."[477] The Commission, however, is not promulgating new interconnection (or quasi-interconnection) requirements for wireless providers here. Rather, the requirements that we adopt today are limited to devices and applications. Section 251[478] simply does not address restrictions by ILECs and CLECs on the use of non-provider supplied devices or applications. Verizon Wireless's concern that the Commission is extending Section 251 requirements to wireless service providers is, therefore, without merit.

211. Similarly, to the extent that Verizon Wireless's arguments rely on the alleged negative effects of (and/or lack of need for) the broader requirements proposed by PISC and Google, these

(Continued from previous page)
rapid, efficient . . . radio communication service with adequate facilities at reasonable charges"); 47 U.S.C. § 303 (authorizing the Commission, "as public interest, convenience, or necessity requires," to "(b) [p]rescribe the nature of the service to be rendered by each class of licensed stations and each station within any class . . . (g) [s]tudy new uses for radio, provide for experimental uses of frequencies, and generally encourage the larger and more effective use of radio in the public interest"); 47 U.S.C. § 157 nt (directing the FCC to encourage the deployment of advanced telecommunications capability through regulatory measures that promote competition or remove barriers to infrastructure investment). In addition, the Communications Act provides the Commission with broad powers to take action necessary to execute its functions and to carry out the provisions of the Act. 47 U.S.C. §§ 154(i) (stating that the Commission "may perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with this Act, as may be necessary in the execution of its functions") and 303(r) (listing, as one of the Commission's general powers, the authority to "[m]ake such rules and regulations and prescribe such restrictions and conditions, not inconsistent with law, as may be necessary to carry out the provisions of this Act").

[472] Verizon Wireless July 24 *Ex Parte* at 7-8.

[473] *See* Verizon Wireless July 24 *Ex Parte* at 19-20.

[474] Verizon Wireless July 24 *Ex Parte* at 7-8.

[475] *Id.* at 12-15.

[476] Verizon Wireless July 24 *Ex Parte* at 20-21.

[477] Verizon Wireless July 24 *Ex Parte* at 16.

[478] *Id.*

arguments are moot in light of the limited focus of the requirements that we actually adopt. Accordingly, we need not address whether such broad requirements would, in fact, work against the goals of Section 706 of the 1996 Telecommunications Act,[479] or Sections 4(i), 303(r), or 309(j)(3) of the Communications Act.[480]

212. Verizon Wireless further asserts that the very statutory provisions we have cited as the sources of our authority to promulgate these limited openness requirements in fact bar us from doing so.[481] As we have explained in detail above, however, we disagree with Verizon Wireless's assessment of the need for and likely effects of limited openness requirements. We agree with Verizon Wireless that one of the main statutorily based principles of our regulatory approach is to limit our regulatory intervention as much as possible and to rely, in the first instance, on marketplace forces to direct the development of the communications industry.[482] However, Verizon Wireless's citation of generalized statements to this effect and its references to our application of this principle to particular aspects of the wireless industry not at issue in this proceeding do not alter our conclusion here. Limited openness requirements are an appropriate response to certain practices in the emerging wireless broadband market and are consistent with the Commission's general approach toward regulation.

213. Verizon Wireless also suggests that adoption of limited openness requirements would exceed the Commission's statutory authority because such requirements would frustrate the objectives set forth in Section 309(j)(3)(C) and (D). More specifically, Verizon Wireless contends that these requirements will reduce the value of the spectrum, and will undermine the statutory goals of recovering for the public a portion of the value of the spectrum and of promoting efficient and intensive use of the spectrum.

214. However, we do not agree with Verizon Wireless that the requirements we adopt here will necessarily frustrate any of the objectives set forth in Section 309(j)(3). It is not clear that these requirements will significantly deter bidders and thus hinder in any meaningful way the Commission's ability to recover for the public "a portion of the public spectrum resource." Additionally, we do not consider the possible reduction in the monetary value of the spectrum contradictory to the letter or spirit of the objective of subsection (j)(3)(C), since that objective only seeks recovery of "a portion of the value of the public spectrum resource." Indeed, the focus of the statutory language on recovery of "a portion" rather than the full value of the spectrum supports the conclusion that the Commission serves the objective of Section 309(j)(3)(C) if it recovers less than maximum market value if necessary to obtain the benefits of other statutory objectives.[483] As for the Section 309(j)(3)(D) objective of promoting the

---

[479] 47 U.S.C. § 157 nt (directing the Commission to encourage the deployment of advanced telecommunications capability through regulatory measures that promote competition or remove barriers to infrastructure investment).

[480] 47 U.S.C. §§ 154(i), 303(r), 309(j)(3).

[481] For example, Verizon Wireless points to these alleged negative effects in arguing that open access requirements work against the Section 309(j)(3)(D) objective of promoting efficient and intensive use of the spectrum and are unsupported by the Commission's Section 4(i) and 303(r) powers to impose regulations that are necessary to carry out the provisions of the Communications Act and to execute the agency's functions. Verizon Wireless July 24 *Ex Parte* at 17-20.

[482] For example, our 1992 order permitting the bundling of handsets with wireless service contracts was based on the status of the wireless marketplace at that time, not on any limit to our regulatory authority. Interestingly, that order noted that "current nondiscrimination requirements preclude a cellular carrier from refusing to provide service to a customer on the basis of what CPE the customer owns," which is one of the very objectives we seek to obtain here. *See* Bundling of Cellular Customer Premises Equipment and Cellular Service, CC Docket No. 91-34, *Report and Order*, 7 FCC Rcd 4028, 4032 (1992).

[483] *Cf.* 47 U.S.C. § 309(j)(7)(A) ("In making a decision pursuant to Section 303(c) of this title to assign a band of frequencies to a use for which licenses or permits will be issued pursuant to this subsection, and in prescribing regulations pursuant to paragraph (4)(C) of this subsection, the Commission may not base a finding of public interest, convenience, and necessity on the expectation of Federal revenues from the use of a system of competitive bidding under this subsection."); *id.* § 309(j)(7)(B) ("In prescribing regulations pursuant to paragraph (4)(A) of this subsection, the Commission may not base a finding of public interest, convenience, and necessity solely or (continued....)

efficient and intensive use of the electromagnetic spectrum, we believe that our use of these requirements here may result in a net gain of efficiency, given the potential that it holds for encouraging the development of new and innovative devices and applications in connection with such spectrum use.[484]

215. But even if Verizon Wireless's claims about spectrum value and network efficiency were correct, Section 309(j)(3) requires the Commission to balance several statutory objectives.[485] Therefore, Section 309(j)(3) does not preclude regulation that may serve one of these objectives more than another.[486] Looking to the specific goals set forth in Section 309(j)(3), we believe the requirements for open platforms for devices and applications adopted here further the objectives of Section 309(j)(3)(A) – developing and rapidly deploying new technologies, products, and services for the benefit of the public. We believe the benefits stemming from these requirements outweigh whatever possible negative effect they might have with respect to the other objectives set forth in the statutory provision. Thus, even if the limited requirements we impose today have some potential for reducing the monetary value and decreasing efficient use of spectrum in some respects, we believe that they are in the public interest and consistent with Section 309(j)(3).[487]

216. Verizon Wireless also challenges our authority to impose open access requirements on the ground that such requirements would be inconsistent with various Title III-based obligations that the Commission has imposed on wireless providers, such as handset radio frequency emission standards, CALEA obligations, and E911 requirements, which, according to Verizon Wireless, would be difficult or impossible to meet under an open access regime for devices and applications.[488] As reflected below, however, we have taken this concern into account. Wireless providers are not required to permit attachment of any device or application that would interfere with the provider's obligations to comply with applicable regulatory requirements, including those mentioned above. In addition, while Verizon Wireless also claims that our requirements are inconsistent with the Title III regulatory regime that "is premised on a licensee's ability (and corresponding responsibility) to ensure the proper operation of all transmitters operating on its spectrum,"[489] this is not the case. We specifically allow providers to utilize reasonable network management practices and "restrict particular non-carrier devices and applications on

(Continued from previous page) ———————————
predominantly on the expectation of Federal revenues from the use of a system of competitive bidding under this subsection.").

[484] We also reject Verizon Wireless's assertion that the requirements we adopt here are designed to unjustly enrich Google in violation of Section 309(j)(3)(C). *See* Verizon Wireless July 24 *Ex Parte* at 17. As indicated above, we do not implement today all of the requirements proposed by Google, and our rules are designed to enhance innovation and consumer choice, not to benefit any particular company.

[485] *See* 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 and Order*, 21 FCC Rcd 6703, 6708, ¶ 12.

[486] *See, e.g., U.S. Airwaves, Inc. v. FCC*, 232 F.3d 227 (D.C. Cir. 2000) (recognizing that statutory goals of Section 309(j)(3), as well as goals of maintaining the integrity of the auctions process and ensuring fairness to all market participants, may be competing and potentially in opposition, and that a "regulatory decision in which the Commission must balance competing goals is . . . [nevertheless] valid if the agency can show that its resolution 'reasonably advances at least one of those objectives and [that] its decisionmaking process was regular.' *Fresno Mobile Radio, Inc. v. FCC*, 165 F.3d 965, 971 (D.C. Cir. 1999)"); *Melcher v. FCC*, 134 F.3d 1143, 1154 (D.C. Cir. 1998) (recognizing that even within one of the Section 309(j)(3) objectives – subsection (B) – Congress set forth "a number of potentially conflicting objectives," and that the Commission has the discretion to decide how much precedence particular policies will be granted when several will be implicated in a single decision).

[487] For similar reasons, we believe that our decision to impose requirements for open platforms for devices and attachments is consistent with other statutory provisions that direct the Commission to promote new and advanced technologies, *see, e.g.*, 47 U.S.C. § 157, Pub. L. No. 104-104, § 706, 110 Stat. 56 (1996), notwithstanding Verizon Wireless's claim to the contrary, *see* Verizon Wireless July 24, 2007 *Ex Parte* at 15-16.

[488] *See* Verizon Wireless July 24, 2007 *Ex Parte* at 19-20.

[489] *Id.* at 19.

their networks, specifically to ensure the safety and integrity of their networks."[490]

217. We also reject arguments by Verizon Wireless that the requirements that we adopt today for devices and applications for the Upper 700 MHz C Block violate the First Amendment.[491] First, Verizon Wireless has not demonstrated that our requirement that licensees in the Upper 700 MHz Band C Block allow customers, device manufacturers, third-party application developers, and others to use or develop devices and applications of their choice (subject to certain limitations) implicates the First Amendment. Our rules regulate the functionality of the spectrum and the conduct of the licensee – activities that we believe are "not sufficiently imbued with elements of communication to fall within the scope of the First ... Amendment."[492] Indeed, Verizon Wireless has cited no authority supporting the proposition that activities such as "locking" handsets to prevent their transfer from one system to another or blocking Wi-Fi access, MP3 playback ringtone capability, or other applications that compete with wireless providers' own offerings are protected speech under the First Amendment. Moreover, our rules in no way limit the licensee in the Upper 700 MHz C Block from offering its preferred devices and applications to its customers; rather, the licensee simply will not be able to force customers to use such devices or applications if those customers would prefer to use others.[493] To the extent that a choice of device or application implicates First Amendment values at all, we think that our requirements promote rather than restrict expressive freedom because they provide consumers with greater choice in the devices and applications they may use to communicate. Accordingly, we believe that Verizon Wireless has not met its burden of demonstrating that any First Amendment scrutiny is even applicable to our provisions for open platforms for devices and applications.[494]

218. However, even if these rules do implicate the First Amendment, they withstand the applicable "intermediate scrutiny" test. The Supreme Court has held that "[a] content-neutral regulation will be sustained under the First Amendment if it advances important governmental interests unrelated to the suppression of free speech and does not burden substantially more speech than necessary to further those interests."[495] First, our regulations advance an important governmental interest unrelated to the suppression of free speech. As we note above, there is evidence in the record that wireless service providers block or degrade consumer-chosen hardware and applications, including Wi-Fi capabilities, for reasons that appear unrelated to reasonable network management or technological necessity. We believe that imposing requirements related to open platforms for devices and applications to the large 22-megahertz C Block will promote innovation in new technologies and products and help ensure that consumers drive handset and application choices. This balanced approach is intended to achieve the public interest objectives we outline above and thus advances important governmental interests.

219. With respect to the second prong of the intermediate scrutiny test, the requirements do not burden substantially more speech than necessary to further those interests. These rules will only apply to a 22-megahertz block of spectrum in the Upper 700 MHz band. We impose these requirements in this particular block so that innovators and entrepreneurs will be able to develop equipment and

---

[490] *See infra*, ¶ 223.

[491] We note that many of Verizon Wireless's First Amendment arguments relate to proposed open access requirements that we do *not* adopt today, such as open access requirements for networks and services. *See infra*, ¶¶ 222-228, and Verizon Wireless July 24 *Ex Parte* at 12-14. We address only those arguments that are relevant to the requirements we adopt, which are limited to devices and applications.

[492] *Spence v. State of Washington*, 418 U.S. 405, 409 (1974).

[493] *Cf. Hill v. Colorado*, 530 U.S. 703, 716-717 (2000) ("The unwilling listener's interest in avoiding unwanted communication has been repeatedly identified in our cases.") and *Rowan v. U.S. Post Office Dept.*, 397 U.S. 728, 737 (1970) ("Nothing in the Constitution compels us to listen or view any unwanted communication.").

[494] *See Clark v. Community for Creative Non-Violence*, 468 U.S. 288, 294, n.5 (1984) ("Although it is common to place the burden upon the Government to justify impingements on First Amendment interests, it is the obligation of the person desiring to engage in assertedly expressive conduct to demonstrate that the First Amendment even applies.").

[495] *Turner Broadcasting System, Inc. v. FCC*, 520 U.S. 180, 189 (1997).

applications that require substantial bandwidth to realize their full potential. As we indicated above, without access to a block capable of supporting high data rates and the potential for substantial market penetration, the requirements we impose here would be less likely to result in rapid innovation at the edge of the network.[496] Furthermore, we limit our requirements to licenses large enough to allow the licensees to achieve economies of scale that will minimize the ongoing operating costs of determining whether particular third-party equipment and applications would operate satisfactorily on their networks. Significantly, we will not disrupt an existing service because there will be no incumbents in the band after the DTV transition. In addition, bidders will have notice of these obligations at the outset. Finally, we reiterate that our rules do not limit the wireless provider's ability to offer its preferred devices and applications on its network in the C Block spectrum. Rather, our rules ensure that in the C Block spectrum, consumers can choose to use devices and applications offered by the C Block licensee or opt to use devices and applications offered by others. Such an approach is clearly less restrictive than directly limiting the devices and applications that the C Block licensee can provide.[497]

220. In addition, for the same reasons that we discuss above, we reject Verizon Wireless's argument that the provisions we adopt today constitute an impermissible burden on commercial speech. As a threshold issue, we do not believe that the conduct we are regulating implicates protected commercial speech. Verizon Wireless cites no precedent to support its implicit assertion that it has a constitutional right to exclude devices and applications from its network that are not part of its branding campaign. We are unaware of any precedent, for instance, suggesting that the application of *Carterfone* principles to the wireline telephone network violates providers' free speech rights. But even if Verizon Wireless does have such a right, our regulations pass muster under the test governing First Amendment challenges to commercial speech,[498] for the same reasons we find that they withstand intermediate scrutiny applicable to content-neutral regulation as described above.

221. Finally, we reject Verizon Wireless's arguments that we are setting aside this spectrum as a "pioneer's preference block," or providing a special bidding credit to new entrants in the upcoming auction for this spectrum.[499] Our imposition of requirements for open platforms for devices and applications is intended not to benefit particular companies, but consumers, who will have the freedom of using any device or application they choose, subject to certain conditions. Unlike the Commission's former pioneer preference program where a license could be obtained outside of the auction process under certain circumstances, the C Block will be subject to auction and open to all qualified bidders.

222. *Scope of the requirement for open platforms for devices and applications.* Wireless service providers subject to this requirement will not be allowed to disable features or functionality in handsets where such action is not related to reasonable network management and protection, or

---

[496] *See supra*, ¶ 204.

[497] *See Mainstream Marketing Services, Inc. v. FTC*, 358 F.3d 1228, 1242 (10th Cir. 2004), *citing Rowan v. United States Post Office Dep't*, 397 U.S. 728 (1970) and *Martin v. City of Struthers*, 319 U.S. 141 (1941) ("The Supreme Court has repeatedly held that speech restrictions based on private choice (*i.e.*, an opt-in feature) are less restrictive than laws that prohibit speech directly.").

[498] *See Zaunderer v. Office of Disciplinary Counsel of the Supreme Court*, 471 U.S. 626, 637 (1985) ("[C]ommercial speech" is entitled to the protection of the First Amendment, albeit to protection somewhat less extensive than that afforded "noncommercial speech."); *see also Central Hudson v. Pub. Serv. Comm'n of New York*, 447 U.S. 557, 564 (1980), which provides a three-part test applicable to regulations restricting non-misleading commercial speech that relates to lawful activity: (1) the government must assert a substantial interest to be achieved by the regulation; (2) the regulation must directly advance that governmental interest, meaning that it must do more than provide "only ineffectual or remote support for the government's purpose;" and (3) the regulation must be narrowly tailored not to restrict more speech than necessary. We believe our analysis above clearly demonstrates that (1) a substantial interest is achieved by our rules for open platforms for devices and attachments; (2) the rules directly advance the government interest; and (3) the rules are narrowly tailored.

[499] Verizon Wireless July 24 *Ex Parte* at 20-21.

compliance with applicable regulatory requirements.[500] For example, providers may not "lock" handsets to prevent their transfer from one system to another. We also prohibit standards that block Wi-Fi access, MP3 playback ringtone capability, or other services that compete with wireless service providers' own offerings. Standards for third-party applications or devices that are more stringent than those used by the provider itself would likewise be prohibited. In addition, C Block licensees cannot exclude applications or devices solely on the basis that such applications or devices would unreasonably increase bandwidth demands. We anticipate that demand can be adequately managed through feasible facility improvements or technology-neutral capacity pricing that does not discriminate against subscribers using third-party devices or applications. In that regard, we emphasize that C Block licensees may not impose any additional discriminatory charges (one-time or recurring) or conditions on customers who seek to use devices or applications outside of those provided by the licensee. Finally, C Block licensees may not deny access to a customer's device solely because that device makes use of other wireless spectrum bands, such as cellular or PCS spectrum.[501] However, we also note that, in accepting a multi-band device for use on its network, a C Block licensee is not required to extend the requirement for open platforms for devices and applications to other spectrum bands on which the provider operates.

223. We emphasize that we are not requiring wireless service providers to allow the unrestricted use of *any* devices or applications on their networks. In particular, we are mindful of the risks network operators face in protecting against harmful devices and malicious software. Wireless service providers may continue to use their own certification standards and processes to approve use of devices and applications on their networks so long as those standards are confined to reasonable network management. For example, providers are free to choose their air interface technology, and to deny service to devices or applications that cannot operate on the same technology, since such a restriction permits significant network efficiencies without significantly reducing consumer access to services and features.[502] We also recognize that wireless providers have legitimate technical reasons to restrict particular non-carrier devices and applications on their networks, specifically to ensure the safety and integrity of their networks. In particular, we believe that it is reasonable for wireless service providers to maintain network control features that permit dynamic management of network operations, including the management of devices operating on the network, and to restrict use of the network to devices compatible with these network control features. Standards to ensure that network performance will not be significantly degraded would also be appropriate.[503]

224. We will not at this time specify a particular process for C Block licensees to develop reasonable network management and openness standards, but we will require certain minimum steps to ensure that device manufacturers and application developers have the ability to design products for this spectrum in a timely manner. Specifically, a C Block licensee must publish[504] standards no later than the

---

[500] We note that the Copyright Office has granted a three-year exemption to the anti-circumvention provisions of Section 1201 of the Digital Millennium Copyright Act, for "computer programs in the form of firmware that enable wireless telephone handsets to connect to wireless telephone communication network, when circumvention is accomplished for the sole purpose of lawfully connecting to a wireless telephone communication network." It found that software locks on mobile handsets adversely affect the ability of consumers to make non-infringing use of the software in those handsets. 17 Fed. Reg. 68472 (Nov. 27, 2006). We also note that a court appeal of the exemption ruling is ongoing.

[501] *See* Google July 24 *Ex Parte* at 3-4 (raising concerns about whether providers can avoid an open access requirement by refusing to attach multimode devices).

[502] We also note that wireless service providers may continue to use their choice of operating systems, and are not required to modify their network infrastructure or device-level operating systems to accommodate particular devices or applications. Device manufacturers and applications developers are free to design their equipment and applications to work with providers' network infrastructure and operating systems, and must be given the applicable parameters as part of the standards provided to third parties.

[503] For example, a provider could exclude devices such as signal boosters and repeaters to the extent they are inconsistent with the technical or operational parameters of the network.

[504] Publication could be accomplished, for example, by posting on the provider's website.

time at which it makes such standards available to any preferred vendors (*i.e.*, vendors with whom the provider has a relationship to design products for the provider's network). We also require the C Block licensee to provide to potential customers notice of the customers' rights to request the attachment of a device or application to the licensee's network, and notice of the licensee's process for customers to make such requests, including the relevant network criteria. We expect that any standards adopted by a C Block licensee will be non-proprietary, such that they would be open to any third party vendors and that the standards applied to third parties will be no more restrictive than those applied to the provider's preferred vendors. We believe that standards transparency should greatly reduce the potential for manipulative "white-listing," *i.e.*, providers creating complex and vague qualification and approval processes for third parties before approval to attach devices or run applications on the network. In addition to publishing any applicable standards, providers must establish a reasonable process for expeditiously reviewing requests from manufacturers, application developers and consumers to employ devices and applications on their networks. If a provider denies such a request, it must offer a specific explanation and an opportunity for amendment of the request to accommodate the provider's concerns. Finally, the Commission will ensure the sufficient openness of any network management practices and selected technical standards in the event the approach outlined above proves unsatisfactory.

225. While we are not aware of any current industry-wide standards specifically focusing on network management, we encourage the development of such standards by an appropriate standard-setting body at the earliest possible date. There is a rich history of standards-setting bodies whose work draws on industry experts and other interested parties to ensure that consumer devices operate efficiently in their networks, including, for instance, the Network Reliability and Interoperability Council (NRIC)[505] and the Open Mobile Alliance (OMA).[506] In particular, we encourage the industry, in its development of fourth generation (4G) air interface standards, to include within those standards reasonable network management criteria relating to devices and applications. As discussed below, where a provider bases its network restrictions on industry consensus standards, we would afford the restrictions a presumption of reasonableness in the event that a complaint is raised with the Commission.

226. *Application of other regulatory requirements.* We also recognize that wireless providers play an important role in supporting public safety and homeland security. The measures we are imposing shall not override wireless service providers' obligations to ensure that their networks and devices comply with applicable regulatory requirements (*e.g.*, power and emission limits, E911, CALEA, etc.). For instance, if a provider is implementing E911 using a handset-based solution, its obligation to connect handsets to its network would not extend to handsets that are not capable of providing automatic location information to the network.[507] Similarly, if a provider relies on a network-based E911 solution, it can reject any devices or applications that would hamper or defeat the network-based E911 solution.[508] If a network provider accepts a non-carrier device or application and if the device or application subsequently causes a violation of our rules, we will apply the same third-party liability provisions as in the wireline context.[509]

227. We find that a wireless service provider's obligations under our hearing aid compatibility rule, Section 20.19, are not affected by the obligations we impose here. Because equipment manufacturers have an independent obligation to satisfy our hearing aid compatibility rules,[510] a wireless

[505] Information about NRIC can be found at http://www.nric.org.

[506] OMA's website is at http://openmobilealliance.org.

[507] 47 C.F.R. § 20.18.

[508] 47 C.F.R. § 20.18.

[509] *See* Wireless Communications and Public Safety Act of 1999, Pub. L. No. 106-81, enacted Oct. 26, 1999, at Section 4 (911 Act).

[510] 47 C.F.R. § 20.19(c)(1). This section, among other things, provides that handset manufacturers must "[e]nsure at least 50 percent of their handset offerings for each air interface offered comply" with the Commission's hearing aid compatibility standards by February 18, 2008.

service provider may not refuse to connect a handset on the grounds that it is not hearing aid-compatible.[511] Under the Commission's rules, the extent of a wireless service provider's compliance with such obligations is not affected by handsets that connect to its network but that the provider does not itself "offer" to its subscribers. Section 20.19(c)(2)(ii) currently requires that, by February 18, 2008, non-nationwide providers subject to the rule must ensure that 50 percent of their models meet a specified hearing aid compatibility standard, calculated based on the number of handsets a provider "offers nationwide."[512] Thus, handsets connected to the network but not actually offered by the provider do not alter the extent to which the provider has complied with this requirement (although the manufacturer of such handsets will be required to meet the 50 percent requirement).[513] Other aspects of the rule applicable to wireless service providers are similarly tied exclusively to handsets offered, such as the obligation to make hearing aid compatible handsets available in a provider's retail store and the applicability of the *de minimis* exception.[514] Accordingly, because the connection to the network of a handset that a provider does not offer has no effect on the provider's compliance with the Commission's hearing aid compatibility obligations, the need to comply with Section 20.19 of our rules would not justify a provider's refusal to connect a device.

228. We decline at this time to alter our hearing aid compatibility obligations to specifically impose an obligation on C Block licensees to ensure the hearing aid compatibility of handsets that are connected to the network but not offered by the provider. Given that we have not sought comment on whether such an extension is appropriate and, if so, how it should be implemented, and that hearing aid compatibility obligations will not in any case be imposed in the 700 MHz Band until after the period for developing a technical standard has passed, taking such a step now would be premature. In any event, as noted above, once hearing aid compatibility obligations are extended to the 700 MHz Band, handset manufacturers will have independent requirements to offer a certain number of hearing aid compatible handsets. We also believe the requirements themselves will help ensure that customers may use available hearing aid compatible handsets regardless of whether they are offered by a wireless service provider or directly by an equipment manufacturer, subject only to the reasonable restrictions described above. We nevertheless direct the staff to consider in its upcoming report assessing the impact of our hearing aid compatibility rules whether any additional hearing aid compatibility requirements should be imposed on C Block licensees as a result of the obligations we adopt here.[515] Interested parties may also file *ex parte* comments in the hearing aid compatibility report docket on this issue.[516]

229. *Enforcement processes.* We intend to vigorously enforce the requirement adopted in this section. A person or entity who believes that the C Block licensee's refusal to attach a proposed device or

[511] We note that wireless service providers in the 700 MHz Band will not immediately be subject to hearing aid compatibility obligations. Although we determined in the *700 MHz Report and Order* that hearing aid compatibility requirements should be extended to 700 MHz licensees, among others, we declined to do so immediately because of the lack of an applicable technical standard for the band, and instead established a two-year period for the development of such a standard. *700 MHz Report and Order*, 22 FCC Rcd at 8117-21 ¶¶ 142-150. In addition, we note that under our current rules, wireless providers subject to these obligations that offer fewer than three handsets per air interface to customers are not obligated to provide hearing aid compatible handsets. *See* 47 C.F.R § 20.19(e)(1).

[512] 47 C.F.R. § 20.19(c)(2)(ii).

[513] *See* 47 C.F.R. § 20.19(c)(1).

[514] *See* 47 C.F.R. §§ 20.19(c)(2)(i)(A), 20.19(e).

[515] *See* Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, *Report and Order*, 18 FCC Rcd 16753, 16782-83 ¶ 74 (2003). This order directed Commission staff to "deliver to the Commission a report that assesses the impact of our rules in achieving greater compatibility between hearing aids and digital wireless phones" shortly after three years from the order's effective date. *Id.*

[516] On November 8, 2006, the Wireless Bureau released a public notice seeking comment on topics to be addressed in the hearing aid compatibility report to be prepared by Commission staff. *See* Wireless Telecommunications Bureau Seeks Comments on Topics to be Addressed in Hearing Aid Compatibility Report, WT Docket No. 06-203, *Public Notice*, 21 FCC Rcd 13136 (2006).

application is a violation of the rules we adopt here may file a complaint pursuant to the Commission's existing enforcement rules, including the Commission's formal and informal complaint processes, where applicable.[517] Through review of complaints and other relevant information, we will monitor the ability of consumers, device manufacturers, and application developers to use or develop devices and applications for C Block networks. We will take appropriate enforcement action where necessary pursuant to the remedies available under our statutory authority as appropriate, including forfeitures,[518] license revocations,[519] and cease-and-desist orders.[520]

230. We do not see any basis for modifying our existing enforcement rules, as proposed by some commenters,[521] to establish special requirements for addressing complaints related to open platforms for devices and applications. However, we commit to rule on these complaints within 180 days of receipt of such complaints. In addition, we believe it would be useful to set forth certain presumptions for these complaints. Specifically, once a complainant sets forth a *prima facie* case that the C Block licensee has refused to attach a device or application in violation of the requirements adopted in this section, the licensee shall have the burden of proof to demonstrate that it has adopted reasonable network standards and reasonably applied those standards in the complainant's case. As noted above, where the licensee bases its network restrictions on industry-wide consensus standards, we would afford the restrictions a presumption of reasonableness. Lastly, we note that, as suggested by Google,[522] interested parties may file a petition for declaratory ruling where a particular practice has broad market impact.[523]

(iv) Use of Dynamic Spectrum Management Techniques

231. Background. On May 21, 2007, Google filed an *ex parte* letter in this proceeding in which it requests that the Commission declare that existing rules governing commercial spectrum in the 700 MHz Band already permit licensees to institute dynamic spectrum management techniques, such as what it terms "dynamic auction mechanisms."[524] Google asserts that licensees could use these techniques to institute a practice whereby access to spectrum is provided on an as-needed basis, and payments would be made as the spectrum is being used.[525] Google explains that a licensee using such mechanisms could recover its costs in obtaining the license at the Commission's auction by charging third parties for their real-time and place use of the licensed spectrum.[526] In addition, Google requests that the Commission

[517] Formal complaints are filed pursuant to Section 208 of the Communications Act, 47 U.S.C. § 208, and are governed by Sections 1.720-1.736 of the Commission's rules, 47 C.F.R. §§ 1.720-1.736. Informal complaints are governed by Sections 1.716-1.719 of the Commission's rules, 47 C.F.R. §§ 1.716-1.719.

[518] *See* 47 U.S.C. § 503.

[519] *See* 47 U.S.C. § 312(a).

[520] *See* 47 U.S.C. § 312(b).

[521] *See* Skype July 24 *Ex Parte* at 1-2 (requesting rule modifications so that complainants would be required to make only a prima facie case of violation, and the agency would be required to resolve all complaints within 180 days of filing); Google July 24 *Ex Parte* at 4 (requesting rule modifications so that complainants would be required to make only a prima facie case of violation).

[522] *See* Google July 24 *Ex Parte* at 4.

[523] *See* 47 C.F.R. § 1.2.

[524] 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*); *see also Google 700 MHz Band Further Notice Comments* at 7 (*Google Ex Parte* "seek[s] confirmation that successful bidders in the 700 MHz auction have the requisite authority to conduct dynamic auctions of their spectrum holdings"), Appendix A (incorporating *Google Ex Parte* as part of its comments). Google states that for every inquiry using the Google "search engine," the company separately performs its own real-time auction to determine the market price of a particular advertisement linked to a particular search term. Google asserts that, in the same way, an auction could be performed for a radio transmission in a pertinent place and time to determine the economic value that the market would support for that transaction. *Google Ex Parte* at 6.

[525] *Google Ex Parte* at 3.

consider whether it would be in the public interest to mandate the use of such techniques for some, or even all, of the commercial spectrum to be auctioned in the 700 MHz Band.[527]

232. As a further elaboration of its term "dynamic auction mechanism," Google states that "[w]hile dynamic auctions can take many forms, the central concept is to utilize intelligent devices to resolve spectrum access contention."[528] Google provides examples of a "real-time airwaves auction model" and "per-device registration fees." Under a real-time airwaves auction model, the licensee could bestow the right to transmit an amount of power for a unit of time, with the total amount of power in any location being limited to a specified cap. This cap would be enforced by measurements made by the communications devices. Under this model, bands should be allocated in chunks as large as possible for channel capacity efficiency reasons, and the airwaves auction would be managed via the Internet by a central clearinghouse.[529] According to Google, with a per-device registration process, the communications device itself could become a key to the payment process, and that a consumer's price to purchase a device could include an airwaves registration fee which would grant the ability to gain unlimited use at a specified power level. Google also states that the device could include collision-detection and back-off features to limit congestion.[530]

233. Google contends that the use of dynamic spectrum management practices such as real-time auctions would maximize the use of underutilized spectrum resources, reduce barriers to entry, and thereby provide access to innovators to offer the consumer new applications, devices, and services at reasonable prices. According to Google, such practices also would spur broadband deployment.[531]

234. Several commenters oppose, on procedural grounds, our consideration of any of Google's proposals at this time. These commenters argue that consideration of the proposals in Google's *ex parte* letter comes too late in this proceeding and would further delay to the 700 MHz auction.[532]

235. CCIA supports Google's request for clarification that the use of dynamic spectrum management techniques is consistent with Commission rules.[533] Several parties comment more generally on the potential usefulness of dynamic spectrum management techniques, including but not limited to what Google references as dynamic spectrum auctions.[534] Commenters that support the use of dynamic spectrum management techniques such as real-time auctions claim that these techniques would promote innovation by creating a transparent, present-value market for spectrum, lowering up-front costs, and

(Continued from previous page)

[526] *Google Ex Parte* at 6.

[527] *Google Ex Parte* at 6. Google also proposed that the Commission require that the unpaired 6-megahertz Lower 700 MHz Band E Block should be reserved for broadband platforms. *Id.* This particular proposal is discussed elsewhere in this Second Report and Order. As noted above, on May 24, 2007, the Wireless Bureau issued a Public Notice seeking comment on Google's service rules proposals. Public Notice, *Comment Sought on Google Proposals Regarding Service Rules for 700 MHz Band Spectrum,* WT Docket 06-150 *et al.*, DA 07-2197 (WTB, rel. May 24, 2007).

[528] *Google Ex Parte* at 3.

[529] *Google Ex Parte* at 4.

[530] *Google Ex Parte* at 4-5.

[531] *Google Ex Parte* at 2-5.

[532] *See, e.g.*, CTIA *Google Ex Parte* Comments at 14; MetroPCS *Google Ex Parte* Comments at 13 (maintaining that, while Google's proposal may have merit, it comes too late in a proceeding "with tight statutory deadlines" to be considered); AT&T *Google Ex Parte* Comments at 6; Verizon Wireless *Google Ex Parte* Comments at 8.

[533] CCIA *Google Ex Parte* Comments at 2;

[534] *See, e.g.*, CCIA *Google Ex Parte* Comments at 2, 4; Frontline *Google Ex Parte* Comments at 11; Wireless Founders Coalition for Innovation *Google Ex Parte* Comments at 4-5 (supporting use of "open auctions" with regard to the proposed commercial public-private partnership license); Vanu *Google Ex Parte* Comments at 2 (supporting "any rulemakings that can contribute to the goal of making spectrum a more accessible commodity, including but not limited to, the concept of dynamic spectrum auctions").

offering greater opportunities for entrepreneurial companies to access the spectrum resource.[535] These commenters also agree with Google that managing spectrum access to the licensed spectrum through the use of dynamic auction mechanisms could facilitate in the allocation of spectrum for maximum efficiency at lower costs to consumers.[536]

236. Other commenters, however, express concern that Google's specific proposal on spectrum management techniques is unclear in many respects and does not provide sufficient detail for Commission evaluation.[537] Some of these commenters also contend that, depending on what Google is proposing, the Commission may either already permit Google and others to use these mechanisms or the Commission has prohibited these practices. Verizon Wireless, for instance, asserts that, to the extent Google seeks confirmation that a licensee is permitted dynamic use of its spectrum, the Commission previously has confirmed this right in the flexible use rules applicable to commercial 700 MHz Band licensees, wherein licensees have the flexibility to reduce noise levels, lower power of their own transmissions, collaborate with equipment vendors to develop new devices, and engage in secondary market transactions to facilitate the shared use of spectrum.[538] Verizon Wireless, AT&T, and CTIA point out that Google's proposal may already be permitted under the Commission's spectrum leasing rules, where licensees and spectrum lessees are permitted to enter into a variety of dynamic forms of spectrum leasing that take advantage of advanced technologies that enable shared use of licensed spectrum, subject to compliance with specified regulatory requirements.[539] Verizon Wireless notes, too, that the Commission permits licensees to establish "private commons" arrangements with spectrum users under specified procedures.[540] In its comments, MetroPCS interprets Google's proposal as a scheme to provide "end user access on an as-needed basis," and contends that, if so, it raises a host of potential legal and regulatory issues in the implementation of that business model that Google fails to address in its proposal.[541] To the extent that Google may be proposing involuntary or unlicensed use of licensed spectrum, Verizon Wireless and CTIA oppose the proposal, stating that this concept recently was rejected by the Commission in its "Interference Temperature" proceeding.[542] To the extent dynamic spectrum management techniques that Google discusses would be applied to commercial spectrum shared with

---

[535] *See, e.g.*, Wireless Founders Coalition for Innovation *Google Ex Parte* Comments at 4; CCIA *Google Ex Parte* Comments at 1, 3; Vanu *Google Ex Parte* Comments at 2, 5.

[536] *See, e.g.*, Frontline *Google Ex Parte* Comments at 5-6; Wireless Founders Coalition for Innovation *Google Ex Parte* Comments at 4; CCIA *Google Ex Parte* Comments at 3-4.

[537] Verizon Wireless *Google Ex Parte* Comments at 2; CTIA *Google Ex Parte* Comments at 6; AT&T *Google Ex Parte* Comments at 3-6; MetroPCS *Google Ex Parte* Comments at 5, 10.

[538] Verizon Wireless *Google Ex Parte* Comments at 2-4.

[539] Verizon Wireless *Google Ex Parte* Comments at 3-4; AT&T *Google Ex Parte* Comments at 4-5 (noting statutory obligations such as foreign ownership and control limitations and compliance with CALEA, as well as other requirements under the secondary markets rules); CTIA *Google Ex Parte* Comments at 6-8 (expressing concerns that dynamic auctions could make it difficult to determine whether spectrum users were in compliance with Title II obligations, cripple enforcement against parties causing out of band harmful interference, and allow evasion of various license qualification requirements).

[540] Verizon Wireless *Google Ex Parte* Comments at 3-4.

[541] MetroPCS *Google Ex Parte* Comments at 2, 5-9. MetroPCS interprets Google's dynamic auction mechanisms as "contemplat[ing] demand-based pricing in which consumers will be charged different prices." *Id.* at 5. MetroPCS notes that such discriminatory pricing would be forbidden to common carriers, raising a classification issue. *Id.* at 8-9. In the view of MetroPCS, these ambiguities foreclose Google from receiving the relief it seeks. *Id.* at 8-10. Moreover, MetroPCS argues that Google is in effect petitioning for a declaratory ruling without shouldering a proponent's burdens: nowhere does Google demonstrate how its proposals comport with the core legal requirements, such as those relating to Title II obligations, and other Commission rules. MetroPCS therefore concludes that it would be premature to consider Google's request. *Id.* at 9-10. In its reply comments, Google contends that MetroPCS's objections are "peripheral speculations." *See* Google *Google Ex Parte* Reply Comments at 5-6.

[542] Verizon Wireless *Google Ex Parte* Comments at 2-4.

public safety users, such as under the Frontline proposal, NPSTC and NENA express concerns that critical public safety standards and operations not be undermined.[543]

237. Vanu comments that, as a general matter, it supports any rulemakings that can contribute to the goal of making spectrum a more accessible commodity, including, but not limited to, the concept of dynamic spectrum auctions.[544] Vanu asserts that the key to making dynamic spectrum access work is having a single local mechanism for coordinating the real-time spectrum access, and emphasizes that, at this time, the licensee must exercise some form of centralized control, from a frequency planning and interference protection perspective, to ensure compliance with the Commission's existing rules.[545] Vanu asks that the Commission grant licensees "the right to offer their spectrum to short term lessees in dynamic auction proceedings" under the following conditions: the spectrum licensee retains ultimate responsibility for compliance with Commission rules; the spectrum licensee is responsible for administering a system that can be shown to cause mobile devices attached to the licensee's network to comply with FCC regulations within the licensee's coverage area; and the spectrum licensee must demonstrate mechanisms by which devices capable of operating in the dynamic spectrum access environment can be temporarily or permanently removed from dynamic spectrum access mode via centralized control.[546]

238. In Google's reply to these comments, Google states that it is not asking for the Commission "to attempt to peer into the future and assess what specific business models and technologies should be encouraged, or even allowed," and instead is indicating that "the concept of dynamic spectrum management potentially covers many different technologies and commercial models, many of which have not been invented."[547] Google states that, as an example, its proposal contemplates that the end-users could gain temporary access to the licensed spectrum through these management techniques much as cellphone subscribers do today.[548] With regard to NPSTC's and NENA's concerns about protecting public safety spectrum, Google states that it does not intend its proposals to suggest placing mandatory conditions on 700 MHz Band spectrum assigned for public safety use.[549]

239. As for whether the Commission should mandate the use of "dynamic spectrum management techniques" in some or all of the 700 MHz Band, the majority of commenters object to any such requirement.[550] These commenters argue that, irrespective of whether Google's proposed uses are permissible under the Commission's rules, mandating licensees to employ particular spectrum management techniques, such as one that Google uses for its own business model with regard to such uses or reserving any portion of the commercial 700 MHz spectrum for the exclusive use of parties seeking to implement any type of dynamic spectrum management business plan would run counter to the Commission pro-competitive, technology neutral, and flexible use policies. AT&T and Qualcomm contend that the Commission's market-driven policies have worked over the last 15 years to encourage the highly competitive wireless environment of today and that mandating or restricting uses would run

[543] NPSTC *Google Ex Parte* Comments at 3-5; NENA *Google Ex Parte* Reply Comments at 4-5.

[544] Vanu *Google Ex Parte* Comments at 2.

[545] Vanu *Google Ex Parte* Comments at 3-4.

[546] Vanu *Google Ex Parte* Comments at 4-5.

[547] Google *Google Ex Parte* Reply Comments at 4.

[548] Google *Google Ex Parte* Reply Comments at 4.

[549] Google *Google Ex Parte* Reply Comments at 9-10.

[550] *See, e.g.*, AT&T *Google Ex Parte* Comments at 8-11; CTIA *Google Ex Parte* Comments at 3; MetroPCS *Google Ex Parte* Comments at 9; NENA *Google Ex Parte* Reply Comments at 3-5 (opposing use in public safety-related spectrum); NPTSTC *Google Ex Parte* Comments at 4 (same); RTG *Google Ex Parte* Comments at 2; Qualcomm *Google Ex Parte* Comments at 3; Qualcomm *Google Ex Parte* Reply Comments at 3; Verizon Wireless *Google Ex Parte* Comments at 4-5.

counter to that effective policy.[551] Several commenters express doubts about whether it is currently technically feasible to conduct dynamic spectrum auctions as proposed by Google.[552]

240. Commenters supporting such a requirement generally focus on mandating such mechanisms specifically on the commercial spectrum block designated for the public-private partnership, in the event the Commission was to establish such a partnership. For example, Frontline proposes that such a partnership licensee be required to "implement promptly" such an open auction mechanism. In particular, Frontline argues, the licensee should be required to dedicate at least 25% of the public-private partnership commercial license to real-time auctions for three years, with annual written reports to be submitted to the Commission along the lines required of experimental licensees.[553] CCIA supports Google's proposal as necessary to generate sufficient revenue to build a nationwide broadband network.[554]

241. Discussion. In response to Google's first request, we affirm that nothing in the Commission's rules generally prohibits 700 MHz licensees from using dynamic spectrum management practices. Dynamic spectrum management techniques, such as those contemplated in Google proposals, appear to be in accord with the Commission's flexible use policies and secondary market mechanisms, which provide licensees with significant flexibility in managing access and use of the licensed spectrum in a dynamic and efficient manner consistent with the rights given to, and obligations imposed on, licensees under the Communications Act and our rules. Based on the current record, of course, we cannot address any particular manner in which a licensee might implement any such practice, and whether any of our specific rules, such as our technical and equipment rules, would need to be modified. In response to Google's second suggestion, we decline to mandate the use of dynamic spectrum management practices for 700 MHz Band licensees.

242. In adopting flexible spectrum use policies for the commercial spectrum in the 700 MHz Band, and in establishing policies and rules that facilitate the development of secondary markets in spectrum usage rights, the Commission has sought to remove regulatory impediments in order to enable more efficient use of licensed spectrum.[555] Under existing rules, 700 MHz Band licensees have wide latitude to adopt and implement spectrum management techniques to manage access to and use of their spectrum, so long as they are consistent with the Commission's rules relating to the spectrum and the prevention of harmful interference. As a matter of practice, licensees continually devise and update the types of advanced devices they deploy, and improve the management of the dynamic spectrum use between and among their subscribers, consistent with the applicable service rules and their respective

---

[551] Qualcomm *700 MHz Further Notice* Reply Comments at 2; Qualcomm *Google Ex Parte* Comments at 6-8; AT&T *Google Ex Parte* Comments at 8 (mandating rules designed to promote particular technologies or services is inconsistent with the Commission's long-standing policies of maintaining technical and service neutrality in its rules and allowing flexible spectrum use by licensees).

[552] MetroPCS *Google Ex Parte* Comments at 10 and n.25 (indicating that dynamic auctions may be 5 or 10 years away); Vanu *Google Ex Parte* Comments at 3-4 (noting that "it is not yet technically feasible for a wireless device to calculate interference temperature in a meaningful way"); NPSTC *Google Ex Parte* Comments at 9-10 (no sensing technologies yet exist able to meet acceptable public safety standards).

[553] Frontline *700 MHz Further Notice* Comments at 23-24.

[554] CCIA *Google Ex Parte* Comments at 1 (sharing risk and investment up front and over time would help to finance actual construction costs and facilitate entry of new licensees).

[555] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 483-487 ¶¶ 15-25; *Lower 700 MHz Band Report and Order*, 17 FCC Rcd at 1051-52 ¶¶ 70-71; Order Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, WT Docket 00-230, *Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 20604 (2003) (*Secondary Markets First Report and Order*) (applying secondary market spectrum leasing rules to commercial 700 MHz Band services); *Erratum*, 18 FCC Rcd 24817 (2003); *Second Report and Order, Order on Reconsideration, and Second Further Notice of Proposed Rulemaking*, 19 FCC Rcd 17503 (2004) (*Secondary Markets Second Report and Order*); *Third Report and Order*, 22 FCC Rcd 7209 (April 11, 2007) (*Secondary Markets Third Report and Order*); *see also* 47 C.F.R. §§ 27.2 (Part 27 rules applicable to commercial 700 MHz Band services), §§ 1.9001 *et seq.* (Subpart X rules concerning "Spectrum Leasing").

business models. Further, as Google notes, the concept of dynamic spectrum management potentially covers many different technologies and commercial models, many of which have not been invented.[556]

243. In the Commission's Secondary Markets proceeding, the Commission has taken several actions to enable more dynamic access and use of spectrum by licensees and other spectrum users, facilitating spectrum use across various dimensions (frequency, space, and time) and spectrum access employing advanced technologies.[557] In the *Secondary Markets Second Report and Order*, the Commission took specific steps, which apply to the 700 MHz Band, to facilitate the development of spectrum usage arrangements that employ advanced technologies that can more efficiently share use of licensed spectrum.[558] In particular, the Commission clarified that licensees and spectrum lessees may enter into a wide variety of dynamic spectrum leasing arrangements that enable users to share use of the licensed spectrum based on the particular parameter and arrangements that the licensee and spectrum lessee(s) have agreed upon.[559]

244. As the Commission explained, a licensee and spectrum lessee may, under existing rules, enter into dynamic spectrum leasing arrangement in which use of the same spectrum is shared between both the licensee's and spectrum lessee's users by employing opportunistic devices. In another variation, a licensee could enter into a spectrum leasing arrangement that gives one spectrum lessee access to the spectrum on a priority basis, while also leasing use of the same spectrum to another spectrum lessee on a lower-priority basis, with the requirement that the lower-priority spectrum lessee employ certain opportunistic technology to avoid interfering with the priority spectrum lessee. The flexibility provided under our dynamic spectrum leasing rules permits arrangements that could facilitate opportunistic use by parties operating at the same power level and under similar technical parameters as the licensee, or they could promote such use at lower power levels.[560] In another secondary markets arrangement permitted under our rules, licensees and spectrum lessees may, under certain specified conditions, make spectrum available to individual users or groups of users through "private commons" arrangements that do not fit squarely within the traditional end-user arrangements associated with the licensee's (or spectrum lessee's) subscriber-based services and network infrastructures or under the secondary markets spectrum leasing policies and rules.[561]

245. These secondary market policies and rules are intended to facilitate the use of advanced technologies, including "smart" or "opportunistic" devices, that have the potential to increase access and use of unused licensed spectrum.[562] Although the Commission has not endeavored to provide an exhaustive list of all the possible arrangements that could involve the use of opportunistic devices and the management of spectrum sharing among users, the Commission's existing rules provide significant flexibility to licensees and spectrum lessees to take advantage of advanced technologies in the access to

---

[556] Google *Google Ex Parte* Reply Comments at 4.

[557] *See Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, WT Docket 00-230, *Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 20604 (2003) *Secondary Markets First Report and Order*); *Erratum*, 18 FCC Rcd 24817 (2003); *Second Report and Order, Order on Reconsideration, and Second Further Notice of Proposed Rulemaking*, 19 FCC Rcd 17503 (2004) (*Secondary Markets Second Report and Order*); *Third Report and Order*, 22 FCC Rcd 7209 (April 11, 2007) (*Secondary Markets Third Report and Order*); *see also* 47 C.F.R. §§ 1.9001 *et seq.* (Subpart X rules concerning "Spectrum Leasing").

[558] *Secondary Markets Second Report and Order*, 19 FCC Rcd at 17545-54 ¶¶ 85-99.

[559] *Secondary Markets Second Report and Order*, 19 FCC Rcd at 17546-48 ¶¶ 88-90 (explaining that "a variety of dynamic forms of spectrum leasing arrangements" are permitted, and providing a number of illustrative, but non-exhaustive, examples of permissible dynamic forms of spectrum leasing utilizing advanced technologies).

[560] *Secondary Markets Second Report and Order*, 19 FCC Rcd at 17547-48 ¶¶ 88-89.

[561] *Secondary Markets Second Report and Order*, 19 FCC Rcd at 17549-53 ¶¶ 91-99; *see also Secondary Markets Third Report and Order*, 22 FCC Rcd at 7209-12 ¶¶ 3-9 (discussing rules applicable to "private commons" arrangements).

[562] *Secondary Markets Second Report and Order*, 19 FCC Rcd at 17545-54 ¶¶ 85-99.

and sharing of spectrum use, pursuant to the terms and conditions that licensees and spectrum lessees establish, so long as they fall within the licensee's spectrum usage rights under the license authorization and are not inconsistent with applicable technical and other regulations imposed by the Commission to prevent harmful interference to other licensees.[563]

246. Based on the current record, of course, we cannot address any particular manner in which a licensee might seek to implement any of the types of dynamic spectrum management techniques suggested by Google, and whether any of our specific rules, such as our technical and equipment rules, would need to be modified in that instance.[564] Indeed, Google is not asking the Commission to assess what specific business models and technologies should be allowed.[565] We also are not addressing any possible regulatory classification issues that might arise from a licensee's provision of spectrum access using dynamic spectrum management techniques.[566]

247. We will not mandate that licensees employ the particular types of spectrum management mechanisms that Google proposes. Consistent with many commenters on this point, we conclude that licensees should retain significant flexibility with regard to the precise mechanisms they utilize when it comes to managing spectrum access to the network and among users. Mandating any particular dynamic spectrum management mechanism on a licensee may impose unanticipated or unnecessarily burdensome requirements on a particular licensee, including requirements for the network, and the devices deployed on it, that may not be consistent or appropriate for that licensee's business model. Of course, to the extent any licensee believes that the specific spectrum management mechanisms that Google proposes is appropriate or preferable, it is free to choose to utilize these mechanisms, consistent with our guidance above.

248. Finally, we decline to adopt Vanu's request that the Commission establish specific conditions for the particular type of dynamic auction proceedings it proposes. While we agree that licensees (or spectrum lessees) bear the responsibility for ensuring that users and devices using licensed spectrum comply with the rules that apply to the particular spectrum in which they operate,[567] we are in no position, based on the record before us, to make any specific determination by rule in this proceeding along the lines that Vanu proposes.

(v) Protection of 700 MHz Public Safety Operations

249. Background. The initial rules for the Upper 700 MHz Band were adopted in part to ensure that appropriate interference protection was provided to 700 MHz public safety operations. Specifically, the Commission adopted strict out-of-band emission (OOBE) limits for C and D Block licensees – *i.e.*, requiring C and D Block base stations and mobiles/portables to attenuate their emissions by 76 + 10log P and 65 + 10logP, respectively, into a 6.25 kHz bandwidth within the public safety bands. In addition, the Commission placed guard bands between the public safety bands and the C and D Blocks to prevent C and D Block transmissions from causing receiver overload interference to public safety operations and required guard band licensees to coordinate with public safety entities to minimize the

[563] *Secondary Markets Second Report and Order*, 19 FCC Rcd at 17546 ¶ 86.

[564] For instance, one possibility Google envisions is that the communications device itself measures and enforces regulatory requirements that the total amount of power being transmitted by all devices in any location be limited to a specified cap. *Google Ex Parte* at 3. Based on the current record, we do not consider whether there would need to be any changes to our technical rules or equipment authorization rules for a licensee to implement that specific suggestion.

[565] Google *Google Ex Parte* Reply Comments at 4.

[566] MetroPCS *Google Ex Parte* Comments at 8-9.

[567] *See, e.g., Secondary Markets Second Report and Order*, 19 FCC Rcd at 17547-54 ¶¶ 88-99 (providing guidance for licensees and spectrum lessees who provide dynamic spectrum access to their networks through secondary market mechanisms); *Secondary Markets Third Report and Order*, 22 FCC Rcd 7209 (providing additional guidance).

likelihood of such interference.[568] In adopting our new band plan for the 700 MHz Band, we must take all necessary steps to ensure continued protection of the public safety bands from C and D Block transmissions.

250. Discussion. We shall continue to require Upper 700 MHz Band C Block licensees to meet the 76 + 10 log P and 65 + 10 log P OOBE limits with respect to the public safety bands. Both Alcatel-Lucent and Ericsson suggest that we adopt the less stringent 43 + 10 log P OOBE limit to protect the public safety broadband block from commercial broadband transmissions.[569] However, we agree with Motorola that the possible use of similar architectures by public safety and commercial broadband systems will not ensure interference protection to public safety broadband operations.[570] Furthermore, given the steps the Commission has taken to provide increased protection to 700 MHz public safety operations, we do not believe that the 43 + 10 logP OOBE limit, used to prevent 700 MHz commercial broadband systems from interfering with one another, should be employed as the out-of-band emission limit to protect 700 MHz public safety broadband systems from interference. We shall therefore retain the existing 76 + 10 log P and 65 + 10 log P OOBE limit for C Block licensees.

251. We will not require the Upper 700 MHz Band D Block licensee, however, to meet OOBE limits with respect to the public safety broadband spectrum. We reach this conclusion because the D Block licensee, through the 700 MHz Public/Private Partnership, will operate on adjacent spectrum and use the same infrastructure as the public safety broadband licensee, and meeting OOBE was a measure designed to protect public safety operations from interference from unaffiliated commercial systems. The D Block licensee will still, however, be required to satisfy the 76 and 65 + 10 log P OOBE limits with respect to the narrowband portion of the public safety spectrum. Finally, we shall not require the D Block licensee and Public Safety Broadband Licensee to coordinate with one another to address potential overload interference, even though such licensees will be authorized on adjacent spectrum, because under the public/private partnership, as discussed above, the D Block licensee and Public Safety Broadband Licensee will be sharing the same infrastructure.

(vi) Licensee Eligibility

252. Background. In the *700 MHz Further Notice*, we requested comment on the proposal presented by Media Access Project and PISC 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.[571] We also sought comment on whether eligibility to hold one or more blocks of the Upper 700 MHz C Block spectrum should be limited to parties not affiliated with existing wireline broadband service providers, including both DSL and cable providers, or, alternatively, limited to parties not affiliated with in-region wireline broadband service providers.[572]

253. In all but one of the proceedings in which the Commission considered eligibility restrictions for licenses in recent years, it has imposed such restrictions only when open eligibility would pose a significant likelihood of substantial competitive harm in specific markets and when eligibility

---

[568] Guard band licensees were also restricted from employing systems with cellular architectures to minimize the frequency coordination activities that would be required of public safety licensees.

[569] Alcatel-Lucent argues that "with the likelihood that similar architectures will be deployed in the commercial and public safety spectrum, the potential for commercial broadband interference into the adjacent public safety spectrum is significantly reduced." Alcatel-Lucent *700 MHz Further Notice* Comments at 19-20; *see also* Ericsson *700 MHz Further Notice* Comments at 29-30.

[570] Motorola states that "[i]n adopting the existing standard, the Commission recognized the inadequacy of the commercial standard 43 +10log P to adequately protect public safety. Ignoring this fact and subjecting public safety receivers to higher interference risks requires more consideration than a simple expectation that system architectures may be similar." Motorola *700 MHz Further Notice* Reply Comments at 11-12.

[571] *700 MHz Report and Order*, 22 FCC Rcd at 8143-44 ¶ 221.

[572] *700 MHz Report and Order*, 22 FCC Rcd at 8144 ¶ 221.

restrictions were an effective way to address the harm.[573] This standard considers factors beyond market power, such as economic incentives, entry barriers, and potential competition.[574]

254. PISC is virtually alone in advocating excluding otherwise qualified applicants from eligibility for 700 MHz Band licenses based on their status as incumbent service providers.[575] PISC argues that the current market for wireless service and broadband is concentrated and that incumbents have little incentive to build a wireless broadband network that would compete directly with their existing wireless or broadband services. In connection with advocating a bidding credit for new entrants as a potential response to these market conditions, PISC notes the difficulty in properly prohibiting relationships between new entrants and parties that should be excluded from receiving a bidding credit.[576] PISC does not propose a definition of all the parties that it believes should be excluded from eligibility. However, in arguing that the Commission should prohibit relationships between new entrants and entities that it asserts have incentives to exclude new competitors, PISC appears to suggest that ILECs, cable operators and large wireless carriers should be ineligible to acquire 700 MHz Band licenses.[577] Frontline also argues that the markets for wireless service and broadband service are concentrated and submits an economic study supporting its contentions.[578] Frontline, however, does not advocate restricting the applicants that may be eligible for licenses. Rather, Frontline proposes, and PISC supports, mandating

---

[573] *See, e.g.*, 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, 14227-32 ¶¶ 165-76 (2004) (finding that parties favoring restricting eligibility of cable operators and ILECs to acquire BRS/EBS licenses for the provision of non-video services had not shown that eligibility of such service providers is likely to result in substantial competitive harm or that, even if specific markets experienced harm to competition, the eligibility restrictions advocated would be effective in eliminating that harm), *Third Memorandum Opinion and Order*, 21 FCC Rcd 5606, 5701-02 ¶¶ 229-31 (2006); Allocations and Service Rules for the 71-76 GHz, 81-86 GHz and 92-95 GHz Bands, *Report and Order*, 18 FCC Rcd 23318, 23345-47, ¶¶ 68-70 (2003) (finding no significant likelihood of competitive harm in any markets and therefore declining to impose eligibility restrictions); Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range, Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates, and Applications of Broadwave USA, PDC Broadband Corporation, and Satellite Receivers, Ltd. to Provide A Fixed Service in the 12.2-12.7 GHz Band, *Memorandum Opinion and Order and Second Report and Order*, 17 FCC Rcd 9614, 9677-82, ¶¶ 159-70 (2002) (concluding that open eligibility for MVDDS licenses for DBS service providers and distributors will not result in substantial competitive harm but that open eligibility for in-region cable operators poses a significant likelihood of substantial competitive harm; and therefore prohibiting any cable operator, or any entity owning an attributable interest in a cable operator, from holding an attributable interest in an MVDDS license if such cable operator's service area significantly overlaps the MVDDS license area); Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6 -40.0 GHz Bands, Implementation of Section 309(j) of the Communications Act – Competitive Bidding, 37.0-38.6 GHz and 38.6-40.0 GHz, *Report and Order and Second Notice of Proposed Rule Making*, 12 FCC Rcd 18600, 18619-20, ¶¶ 32-35 (1997) (finding it unlikely that substantial anticompetitive effects would result from LEC eligibility); *cf.* Auction of Direct Broadcast Satellite Licenses, 19 FCC Rcd 23849, 23856, 23869-71 (2004) (making DBS incumbents ineligible for two DBS licenses that afford a last opportunity for new entry in the DBS market).

[574] Rulemaking to Amend Parts 1, 2, 21 and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30-0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, *Third Report and Order and Memorandum Opinion and Order*, 15 FCC Rcd 11857, 11861-62 ¶¶ 7-12 (2000) (explaining why this standard, and not the substantial market power test, is the appropriate standard to use in determining whether LMDS eligibility restriction previously imposed on ILECs and cable companies should be allowed to sunset).

[575] PISC *700 MHz Further Notice* Comments at 7-12, 35. *Cf.* AT&T *700 MHz Further Notice* Reply Comments (summarizing comments for and against eligibility restrictions).

[576] PISC *700 MHz Further Notice* Comments at 35.

[577] PISC *700 MHz Further Notice* Comments at 35.

[578] Frontline *700 MHz Further Notice* Comments at 9-16, Ex. 1 at 6-11.

open access rules to address market concentration.[579] We address potential open access requirements elsewhere. CCIA proposes that, rather than restrict incumbents from eligibility for licenses absolutely, the Commission should mandate that in-region wireline incumbents be permitted to hold licenses only through structurally separate affiliates.[580]

255. A variety of commenters strongly oppose eligibility restrictions for a host of reasons.[581] Opponents contend that the record does not provide data sufficient to meet our standard for imposing an eligibility restriction.[582] Parties argue to the contrary that there is ample and growing competition in wireless broadband.[583] Several parties argue that restricting incumbents would run directly contrary to the Commission's goal of assigning licenses to the parties that value the licenses the most.[584] In many cases, certain commenters assert, that party may well be an incumbent service provider, including either a rural provider or a national carrier.[585]

256. Discussion. On the present record, we do not find a significant likelihood of substantial competitive harm in a specific market, and therefore we decline to impose eligibility restrictions for the licenses in the 700 MHz Band. At present, it appears most likely that the commercial non-Guard Band spectrum in the 700 MHz Band will be used for the provision of broadband services. Accordingly, we analyze whether open eligibility would pose a significant likelihood of substantial competitive harm in the broadband services market. The record does not demonstrate that open eligibility is likely to result in substantial competitive harm in the provision of broadband services. First, there are numerous actual and potential broadband service providers. Currently, consumers can obtain broadband service from wireline providers, cable companies, satellite, and wireless providers, including Wireless Internet Service Providers (WISPs) that use unlicensed spectrum.[586] While ILECs and incumbent cable operators may lead in the provision of broadband internet access at the present, new entrants wishing to offer wireless broadband internet access have numerous potential platforms to use for a wireless "third pipe," both among different 700 MHz Band blocks and among other wireless bands. There is potential for additional entry into the broadband market by carriers operating on spectrum in the Wireless Communications

[579] Frontline *700 MHz Further Notice* Comments at 17; PISC *700 MHz Further Notice* Comments at 12.

[580] CCIA *700 MHz Further Notice* Comments at 5.

[581] *See, e.g.*, TIA *700 MHz Further Notice* Comments at 3, 5 and 7; CTIA *700 MHz Further Notice* Comments at 10; RTG *700 MHz Further Notice* Comments at 12; NCTA *700 MHz Further Notice* Comments at 2-3; 700 MHz Independents *700 MHz Further Notice* Comments at 10; MetroPCS *700 MHz Further Notice* Comments at 38; USCC *700 MHz Further Notice* Comments at 21; AT&T *700 MHz Further Notice* Comments at 20; Verizon Wireless *700 MHz Further Notice* Comments at 31; SpectrumCo *700 MHz Further Notice* Comments at 7; Qualcomm *700 MHz Further Notice* Comments at 9-10; Motorola *700 MHz Further Notice* Comments at 35.

[582] CTIA *700 MHz Further Notice* Comments at 11-12; TIA *700 MHz Further Notice* Comments at 6.

[583] NCTA *700 MHz Further Notice* Comments at 4 (citing WiMax and BPL); AT&T *700 MHz Further Notice* Comments at 32-33 (citing WiMax, BPL, and satellite).

[584] NCTA *700 MHz Further Notice* Comments at 3; TIA *700 MHz Further Notice* Comments at 6; WISP *700 MHz Further Notice* Comments at 7; MetroPCS *700 MHz Further Notice* Comments at 43; Qualcomm *700 MHz Further Notice* Comments at 10; Verizon Wireless *700 MHz Further Notice* Comments at 31-32.

[585] Blooston *700 MHz Further Notice* Comments at 5-6; Frontier *700 MHz Further Notice* Comments at 13; CTIA *700 MHz Further Notice* Comments at 17.

[586] Satellite broadband providers include WildBlue and Hughes. *See* http://www.wildblue.com/ http://www.hughes.com/HUGHES/Rooms/DisplayPages/LayoutInitial?pageid=HNS_home&Container=com.webridge.entity.Entity[OID[48D310485DF714449F65AAD3E8CE2313]] (last visited May 18, 2007). Wireless providers include not only the large national mobile telephony providers (Verizon Wireless, AT&T Mobility, Sprint Nextel, and T-Mobile) but also smaller regional mobile telephony providers such as Alltel and USCC. Further, there are various other wireless Internet service providers such as Clearwire, as well as Wi-Fi (hot spot) providers. *See* Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, WT Docket No. 06-17, *Eleventh Report*, 21 FCC Rcd 10947, 10961-62 ¶ 30-32, 10993 ¶ 112 (2006) (*Eleventh Competition Report*); http://easyedge.uscc.com/easyedge/Home.do.

Services (WCS), Advanced Wireless Service (AWS), Broadband Radio Service (BRS), and 3650-3700 MHz bands.[587] Further, the Commission has facilitated deployment of broadband service to be offered over electric lines.[588] Satellite, wireless, and broadband over power lines (BPL) have been used to provide broadband services on a widespread basis for a relatively short period of time, and the number of high speed lines deployed by these technologies has increased substantially.[589] Between June 2005 and June 2006 the number of high speed lines offered by satellite, wireless, and BPL technologies increased by over 1,000 percent, and as of June 2006 reflect approximately 18 percent of all high speed lines.[590] Given the number of actual wireless providers and potential broadband competitors, it is unlikely that ILECs, cable providers, or large wireless carriers would be able to behave in an anticompetitive manner as a result of any potential acquisition of 700 MHz spectrum. Moreover, existing competition, such as that between ILECs and cable providers with respect to broadband internet access services, limits any one party's incentives to attempt unilaterally to block new entrants from acquiring 700 MHz spectrum. Absent a monopoly on broadband service, an incumbent attempting to block new entrants would bear all the costs of doing so, while other incumbents would capture much of the gain.

257. Also, we find that the revised band plan for the 700 MHz Band and the associated buildout rules will help discourage foreclosure in the market. First, this spectrum is being auctioned in five spectrum blocks ranging in size from a 6-megahertz unpaired block to a 22-megahertz block (comprised of paired 11-megahertz blocks) and over various geographic market sizes ranging in size from CMAs to REAGs. Given the number and diversity of available licenses, it is unlikely that any ILEC, cable company, or large wireless carrier would be able to acquire enough spectrum to foreclose the broadband market to potential competitors, even if it should attempt to do so. Second, the build out requirements adopted in this Second Report and Order will help prevent warehousing, requiring auction winners to bear the cost of providing service, in addition to the cost of acquiring licenses, in order to prevent entry by potential competitors.

258. There are potential competitive benefits to not imposing the proposed eligibility requirement. Allowing ILECs and cable companies to hold 700 MHz Band licenses would provide opportunities for these carriers to extend their services to rural and hard-to-serve areas where transmission by cable or wire may be prohibitively expensive. Also, as reflected by many comments, the proposed eligibility restriction would create impediments to small and rural carrier acquisition of spectrum and deployment of broadband services.[591] These carriers may have limited access to capital, and the proposed eligibility restriction would prevent the formation of alliances, partnerships, and joint ventures that could

---

[587] *See* "FCC's Advanced Wireless Services (AWS) Spectrum Auction Concludes," News Release (rel. Sept. 18, 2006), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-267467A1.doc (last visited May 18, 2007); Consolidated Request of the WCS Coalition for Limited Waiver of Construction Deadline for 132 WCS Licenses, Request of WCS Wireless, LLC for Limited Waiver of Construction Deadline for 16 WCS Licenses, Request of Cellutec, Inc. for Limited Waiver of Construction Deadlines for stations KNLB242 and KNLB216 in Guam/Northern Mariana and American Samoa, WT Docket No. 06-102, *Order*, 21 FCC Rcd 14134, 14140-41 ¶ 12 (2006); Wireless Operations in the 3650-3700 Band, ET Docket No. 04-151, *Report and Order and Memorandum Opinion and Order*, 20 FCC Rcd 6502 (2005).

[588] *See* Amendment of Part 15 Regarding New Requirements and Measurement Guidelines for Access Broadband over Power Line Systems, Carrier Current Systems, including Broadband over Power Line Systems, ET Docket No. 04-37, *Memorandum Report and Order*, 21 FCC Rcd 10413 (2006); Amendment of Part 15 Regarding New Requirements and Measurement Guidelines for Access Broadband over Power Line Systems, Carrier Current Systems, including Broadband over Power Line Systems, ET Docket No. 04-37, *Report and Order*, 19 FCC Rcd 21265 (2004).

[589] Industry Analysis and Technology Division, Wireline Competition Bureau, "High-Speed Services for Internet Access: Status as of June 2006," January 2007 at Table 1.

[590] Industry Analysis and Technology Division, Wireline Competition Bureau, "High-Speed Services for Internet Access: Status as of June 2006," January 2007 at Table 1.

[591] *See, e.g.*, Blooston *700 MHz Further Notice* Comments at 5-6; RTG *700 MHz Further Notice Comments* at 13; 700 MHz Independents *700 MHz Further Notice* Comments at 9-11.

provide these firms with needed capital.

259. We also note that restricting eligibility for licenses without adequate justification could harm the public interest. The use of competitive bidding to assign licenses, such as the commercial 700 MHz licenses, serves the public interest by assigning licenses to the parties that value the licenses the most. Such parties are presumed to be most likely to put the public spectrum resource to its most effective use.[592] If, however, we exclude categories of potential licensees, we risk reducing the likelihood that the party valuing the license the most will win the license and put it to use for the benefit of the public. This unavoidable uncertainty in assessing prospective competitive harms is heightened here by the substantial spectrum capacity being made available and the uncertainty regarding how that spectrum capacity ultimately will be used.

b. 700 MHz Guard Bands

(i) Treatment of Reconfigured A Block

260. Background. In setting forth the rules governing the Upper 700 MHz Band, the Commission indicated that a primary goal was to ensure that 700 MHz public safety operations are protected from harmful interference from commercial systems in adjacent bands.[593] Because the occurrence and severity of interference increases as an interfering source comes spectrally closer to a receiver's assigned frequencies, the Commission was particularly concerned about the effect of commercial operations on adjacent public safety narrowband systems.[594] To address one form of interference to public safety systems – receiver overload[595] – the Commission established the 700 MHz Guard Bands between commercial and public safety spectrum. The Commission also adopted a package of stringent interference protections modeled on the interference standards used for the 700 MHz public safety spectrum.[596] Specifically, the Commission required that operations in the Guard Bands must adhere to the rigorous out-of-band emission criteria—adjacent channel power (ACP) limits—used by 700 MHz public safety operations.[597] The Commission also required that spectrum users in the Guard Bands employ frequency coordination procedures in cooperation with 700 MHz public safety coordinators,[598] and prohibited the use of cellular architectures in the Guard Bands.[599]

261. In their comments, Access Spectrum/Pegasus and Arcadian argue that in the event that the Commission chooses to reconfigure the Guard Band A Block, the Commission should apply to the reconfigured A Blocks the same technical rules that apply to other commercial licensees.[600] Access Spectrum/Pegasus argue that in the case where Guard Band A Block transmitters are no longer next to

---

[592] *See* Implementation of Section 309(j) of the Communications Act – Competitive Bidding, *Second Report and Order*, 9 FCC Rcd 2348, 2349-50 ¶¶ 3-7 (1994).

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

[594] Although filtering is used to minimize interference, no receiver filter can confine emissions to a specific channel; some signals will inevitably "spillover" into nearby spectrum. Compounding the problem, public safety narrowband receivers often are not sufficiently selective to reject undesired signals that may be present under these conditions.

[595] Overload (also known as receiver or front-end overload) is an informal term describing situations where a receiver is exposed to very strong signal levels leading to a loss of receiver sensitivity.

[596] *See Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5307 ¶ 16. The Commission reasoned that applying the same out-of-band emissions limits in both the Guard Bands and the public safety bands will provide the same effective technical interference protection to public safety users as users of public safety equipment provide to themselves. *Id.*

[597] 47 C.F.R. § 27.53.

[598] Frequency coordination permits Guard Bands and public safety operators to select frequencies that are as far from one another as possible.

[599] *See Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5308-09 ¶¶ 18-19.

[600] Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 17; Arcadian *700 MHz Further Notice* Reply Comments at 9.

public safety narrowband channels,[601] transmitter power should be attenuated out-of-band by at least 43 +10log P dB, and that, in order to protect public safety wideband and narrowband, A Block transmissions should be attenuated to at least 76 + 10log P dB, in a 6.25 kilohertz bandwidth for base stations, and 65 + 10log P dB for mobile units.[602] According to this proposal, which assumes that the A Block is adjacent to the Public Safety Broadband allocation, A Block licensees would need to meet the 76 +10logP/65+10logP attenuation requirement either 1 or 1.5 megahertz into the public safety broadband block depending on whether the Commission permits wideband operations in the public safety broadband spectrum.[603] Access Spectrum/Pegasus argue that by applying these emissions limits, the Commission would promote public-private partnerships, as well as adequately protect public safety spectrum from interference.[604]

262. Discussion. Because the reconfigured Guard Band A Block will now be located at 757-758/787-788 MHz between the Upper 700 MHz Band C and D Blocks, and will no longer be adjacent to public safety narrowband spectrum, we conclude that it is no longer necessary to apply the ACP emissions criteria to the A Block. Instead, we will apply OOBE limits, which are consistent with emission limits applicable to the C Block. Thus, A Block licensees are required to attenuate out-of-band by at least 43 +10log P dB. Further, as explained above, we continue to believe that we should continue to apply heightened out-of-band emissions criteria in order to provide adequate protection to public safety. Therefore A Block transmitter power must be attenuated to at least 76 + 10log P dB, in a 6.25 kilohertz bandwidth for base stations at 763 MHz, and 65 + 10log P dB for mobile units at 793 MHz. We agree with Access Spectrum/Pegasus that reconfiguring the public safety block and applying OOBE rules that are consistent with those applicable to the C Block will help to promote more efficient use of the 700 MHz Band and could lead to the combined use of multiple spectrum blocks for the provision of broadband services.[605] We find that the OOBE limits we are applying here are readily achievable by the A Block licensees, yet will provide appropriate out-of-band protection to other Upper 700 MHz operations. Accordingly, we will no longer require the reconfigured A Block licensees to comply with the ACP limits set forth in Section 27.53(d) of our rules.

263. *Frequency Coordination and the Cellular Architecture Prohibition.* In addition to imposing the more stringent OOBE limits, the *Upper 700 MHz Second Report and Order* required that guard band users employ frequency coordination procedures in cooperation with 700 MHz public safety coordinators, and prohibited the use of cellular architectures in the Guard Bands.[606] Given the elevated

---

[601] Although Access Spectrum/Pegasus's argument was made in the context of the alternative Access Spectrum/Pegasus proposal (Proposal 3), it can similarly be applied in the context of a reconfigured A Block placed between the commercial C and D Blocks.

[602] Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 17-19. Access Spectrum/Pegasus propose that we apply OOBE limits as recommended in WT Docket No. 06-169 by Access Spectrum/Pegasus and the 700 MHz Technical Working Group. *See Ex Parte* from Ruth Milkman, Counsel for Access Spectrum, LLC and Kathleen Wallman, Adviser to Pegasus Communications Corporation, to Marlene H. Dortch, Secretary, FCC in WT Docket Nos. 06-169 and 96-86 (filed Jan. 26, 2007) (*Second Report of the 700 MHz Technical Working Group* or *Second TWG Report*).

[603] Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 19. Specifically, in the event that wideband operations are permitted, Access Spectrum/Pegasus recommend that the 76 + 10log P/65 + 10log P attenuation requirement begin 1 megahertz inside the public safety spectrum, or 764/794 MHz, respectively. Access Spectrum/Pegasus state that, in the event that we do not permit wideband operations in the public safety broadband block, we should require A Block licensees to meet the 76 + 10log P/65 + 10log P attenuation requirement 1.5 megahertz inside the public safety broadband block, *i.e.* 764.5/794.5 MHz, respectively. Access Spectrum/Pegasus, however, do not provide a basis for this difference.

[604] *Id.*

[605] *See* Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 17.

[606] *See Upper 700 MHz Second Report and Order*, 15 FCC Rcd at 5307-08 ¶ 17. The Commission noted that the significant interference problems arising from the adjacency of 700 MHz commercial and public safety spectrum are further compounded by the conflicting network architectures typically employed by public safety narrowband operations and commercial systems. Cellular systems, by design, are composed of large numbers of base stations within a relatively small geographic area. Public safety systems, on the other hand, are typically composed of high-(continued....)

risk of receiver overload interference to public safety posed by the Guard Bands' adjacency to narrowband operations, the Commission felt that it was advisable to provide a process through which a Guard Bands licensee and a public safety licensee could select operating frequencies that are as far from one another as possible, thereby minimizing the risk of harmful interference to the public safety operation.[607] The Commission concluded that frequency coordination was an essential requirement for Guard Bands users given the spectral proximity of public safety operations.[608] Further, because the Commission required such frequency coordination, the Commission restricted operation in the Guard Bands to entities that do not use cellular system architectures.[609] Interference between public safety operations and systems using similar architectures—*e.g.*, high-power base stations providing coverage to a large geographic area—can generally be resolved through the required frequency coordination without much difficulty. Systems employing cellular architectures, however, create a high density of potential interference sources to public safety operations.[610] The Commission concluded that attempting to remedy such interference would be a complex, difficult task of coordinating frequencies between each commercial base station, and the various public safety systems operating in the area.[611] The Commission therefore prohibited the use of cellular architectures in the Guard Bands spectrum.

264. Access Spectrum/Pegasus argue that we should no longer apply the stringent coordination requirements,[612] and Access Spectrum/Pegasus and Arcadian argue that the prohibition on cellular architecture should be removed.[613] Access Spectrum/Pegasus assert that deployment across the 700 MHz Band will likely be low-site, low-power systems, and that maintaining the cellular architecture prohibition will prevent the deployment of next-generation broadband operations, including any network that may be shared with public safety operations.[614] Because the reconfigured Guard Band A Block will no longer be located adjacent to public safety spectrum, we find that it is no longer necessary to apply our frequency coordination requirement, and, consequently, our prohibition against cellular architecture with respect to A Block licenses. We believe that continuing to apply such rules would interfere with the ability of licensees and other users of A Block spectrum to deploy broadband service, enter into arrangements with other 700 MHz commercial entities, as well as prevent any efficiencies or economies of scale that may result from network sharing. Accordingly, we will no longer apply Sections 27.601(d) and 27.2(b) to reconfigured A Block licenses.[615]

(Continued from previous page)
powered base stations operating at a few sites that provide coverage to a large geographic area. This mix of network architectures often result in an interference scenario—sometimes referred to as "near-far"—that arises when a cellular system operates in close proximity to a public safety system. In the near-far scenario, interference occurs where a public safety mobile/portable unit receives a stronger signal from a nearby, adjacent channel commercial base station rather than from the desired, distant public safety transmitter. The Commission found it necessary to re-band the 800 MHz band to resolve this type of "near-far" interference, which, in that band, was "caused by a fundamentally incompatible mix of two types of communications systems: cellular-architecture multi-cell systems—used by ESMR and cellular telephone licensees—and high-site non-cellular systems—used by public safety, private wireless and some SMR licensees . . . ." *See 800 MHz Report and Order*, 19 FCC Rcd at 14972-73 ¶ 2.

[607] *700 MHz Guard Bands Notice*, 21 FCC Rcd at 10421 ¶ 18.

[608] *Id.*

[609] The Commission defined a cellular system architecture as "one where large geographic service areas are segmented into many smaller areas or cells, each of which uses its own base station, to enable frequencies to be reused at relatively short distances." *Upper 700 MHz Second Report and Order*, 15 FCC at 5306 ¶ 14 n.34. The Commission noted that its definition is similar to that established in 47 C.F.R. ¶ 22.99. *Id.*

[610] *Id.* at 5308-09 ¶ 19.

[611] *Id.*

[612] Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 20.

[613] Access Spectrum/Pegasus *700 MHz Further Notice* Comments at 20; Arcadian *700 MHz Further Notice* Reply Comments at 9.

[614] *See id.*

[615] *See* 47 C.F.R. §§ 27.2(b), 27.601(d).

265. *Removal of the 746-747 MHz A Block Guard Band.* The power limit for base stations operating in the Lower and Upper 700 MHz Band commercial spectrum is 1 kW ERP.[616] Base stations in the Lower 700 MHz Band, however, may operate at power levels up to 50 kW ERP provided they meet a power flux density (PFD) limit of 3 mW/m^2 on the ground within 1 kilometer of the station.[617] Through the use of this PFD limit, a transmission from a 50 kW ERP base station would 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. It is therefore unnecessary to retain the A Block Guard Band at 746-747 MHz to shield Upper 700 MHz Band C Block operations from interference from high power operations allowed in the Lower 700 MHz Band C Block.[618] Moreover, if the winner of the 22 MHz Upper 700 MHz Band C Block were concerned about potential interference from higher power operations in the adjacent Lower 700 MHz Band C Block despite the PFD limit, it would have more than ample spectrum to employ an internal guard band.[619] We also note that the 746-747 MHz Guard Band was not adopted, as Ericsson implies, "to create a buffer between incompatible [commercial] spectrum blocks."[620] Rather, the Commission allocated the Guard Bands "to ensure that the public safety bands are protected from interference,"[621] and it placed a 1-megahertz block at 746-747 MHz "to allow for a paired block" architecture.[622]

(ii) Treatment of Reconfigured B Block

266. Background. While the reconfiguration of the Upper 700 MHz Band and placement of the Guard Band A Block between commercial spectrum blocks permit us to liberalize the technical rules applicable to A Block licensees, similar relaxation of technical requirements for the reconfigured Guard Band B Block is not feasible as it remains adjacent to public safety narrowband spectrum. We received no comment supporting additional flexibility for future operations in the reconfigured B Block in this context.

267. Discussion. We find that it would not be prudent to make any changes that would introduce the possibility of increased interference to adjacent public safety operations. Because all existing Guard Band A and B Block licensees, with the exception of grandfathered PTPMS II licenses discussed below, are voluntarily repacking their spectrum into a new A Block, the reconfigured B Block allocation will be vacant for the time being. Any future operations in the Guard Band B Block will continue to be bound by our existing Guard Bands technical rules requiring frequency coordination and prohibiting the use of cellular system architectures. These continued technical restrictions on the B Block can be fully taken into account as the Commission considers future uses for the block. We will, however, create additional flexibility by providing operations in the reconfigured B Block the option of employing either the existing ACP limits set forth in Section 27.53(d) of the Commission's rules, or the same OOBE limits used by other commercial licensees to protect public safety, *i.e.* 76 + 10log P dB per 6.25 kHz for base stations, and 65 + 10log P dB per 6.25 kHz for mobile units.[623]

---

[616] *See* 47 C.F.R. §§ 27.50(b), (c).

[617] *See* 47 C.F.R. §§ 27.50(c), 27.55(b).

[618] *See* AT&T *700 MHz Further Notice* Comments at 5.

[619] *See* Verizon Wireless *700 MHz Further Notice* Comments at 16 (removal of A Block Guard Band at 746-747 MHz "can be undertaken without creating new interference to commercial users, because the C Block is increased in size, to 22 MHz, allowing for some of the spectrum to be used for an 'internal guard band.'"); *see also* AT&T *700 MHz Further Notice* Comments at 5 n.5 ("it is critical that the Upper 700 MHz C Block license be allocated 11 MHz (2 x 5.5 MHz) so as to provide the licensee with the capability of utilizing an internal guard band").

[620] Ericsson *700 MHz Further Notice* Comments at 20.

[621] *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 491 ¶ 33.

[622] *Id.* at ¶ 34.

[623] By permitting B Block licensees the option of complying with the 76 + 10log P/65 + 10log P attenuation requirement, we resolve the issue identified in the *700 MHz Guard Bands Notice* with respect to the appropriate (continued....)

(iii) Treatment of PTPMS II Licenses

268. Background. As discussed above, PTPMS II is not participating in the "repacking" of incumbent Guard Bands licenses, and instead has chosen to retain its licenses under the terms of their current authorizations.[624]

269. Discussion. To ensure interoperability in border areas with Canada we are modifying the PTPMS II licenses by relocating its Guard Band A Block license to 757-758 MHz and 787-788 MHz along with the "repacked" Guard Band A Block licenses, and by shifting its Guard Band B Block licenses down 1 megahertz to 761-763 MHz and 791-793 MHz.[625] Although PTPMS II has elected to remain under the existing terms of its licenses, we conclude that, for purposes of regulatory parity, we should apply to the PTPMS II A Block the same technical rules that will apply to the reconfigured A Block licenses. As noted, the new spectral position of the A Block between the commercial Upper 700 MHz Band C and D Blocks makes it no longer necessary to apply stringent Guard Bands technical rules to such licenses. Because the PTPMS II A Block will be situated similarly to the reconfigured A Block operations, we find that it is in the public interest to apply the same technical rules.

270. The PTPMS II B Block licenses, however, will remain adjacent to the public safety allocation in two markets. We continue to find it necessary to ensure that public safety operations remain free from harmful interference from commercial systems. Accordingly, we conclude that the existing B Block technical rules continue to apply to PTPMS II's B Block licenses given their adjacency with public safety spectrum. We note that although the PTPMS II B Block licenses will occupy the same spectrum as the D Block in two markets, we do not have the same concerns regarding interference by the D Block because the D Block will operate in concert, and share facilities, with the Public Safety Broadband Licensee pursuant to the 700 MHz Public/Private Partnership discussed in this order.

(iv) License Terms

271. Background. In the *700 MHz Report and Order*, we revised the license terms for non-Guard Band commercial spectrum in the 700 MHz Band from January 1, 2015 to February 17, 2019.[626] We did not, however, apply to the Guard Bands the same revised license term.[627]

272. Discussion. In light of the changes we are making to the Upper 700 MHz band plan, we find that revision to the license term with respect to the reconfigured Guard Band A Block is appropriate in order to provide regulatory parity with other commercial licensees and to provide A Block licensees with a reasonable opportunity to deploy systems under their revised technical rules. Accordingly, the license terms for the A Block licenses, including the PTPMS II A Block, shall extend to 10 years after the end of the DTV transition, through February 17, 2019, and subsequent renewal terms will be 10 years.

273. With respect to the incumbent PTPMS II B Block operations, however, we do not believe it is in the public interest to permit these grandfathered B Block licensees to operate indefinitely at the critical juncture between the public safety broadband spectrum and the D Block spectrum, preventing the latter from deploying a ubiquitous nationwide footprint. Therefore, we will retain the existing license terms for the grandfathered PTPMS II B Block licenses, rather than extending them to match the other commercial licensees. Furthermore, we do not provide a renewal expectancy to the PTPMS II B Block licenses, the terms of which will expire in 2015.

(Continued from previous page) ———————————
emission limits that Guard Band licensees should use for channel bandwidths greater than 150 kHz. *See 700 MHz Guard Bands Notice*, 21 FCC Rcd at 10428 ¶ 34.

[624] *See supra* Section III.A.1.b.ii.a.

[625] *Id.*

[626] *See 700 MHz Report and Order*, 22 FCC Rcd at 8096 ¶ 84.

[627] *Id.*

3. Auctions-Related Issues

a. Anonymous Bidding

274. Background. In the *700 MHz Further Notice*, we sought comment on whether to use anonymous bidding (or "limited information") procedures in the 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.[628] Current competitive bidding rules permit withholding information on bidder interests and identities prior to the close of the auction.[629] Accordingly, the Commission could wait to make a final decision regarding the information procedures for the auction as part of the pre-auction process, in which specific procedures are adopted after seeking public comment on proposed auction designs. In prior auctions, the Commission has adopted procedures, made 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 (2) the identities of bidders placing bids.[630]

275. We noted in the *700 MHz Further Notice* that revealing all information during the auction process potentially may result in harms as well as benefits.[631] Those harms and benefits depend in part on how licenses offered in the auction will be used. Accordingly, we expressly sought comment on whether the potential to use new 700 MHz Band 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.[632] We also sought comment on whether the lack of readily available technologies for use in the band, relative to existing broadband networks in other bands, reduces the potential benefit to bidders and the public of bidders using information about the identities of other bidders to guess what technologies will be deployed.[633]

276. In prior auctions, the Commission has adopted anonymous bidding procedures and made final implementation of those procedures contingent on a pre-auction measure of the likely competitiveness of the auction. More specifically, the Commission has assessed likely competition in the auction based on the level of upfront payments, which establish the eligibility of auction participants to bid on licenses.[634] The level of upfront payments roughly reflects the likely level of competition for licenses offered in the auction. Assuming other factors are consistent, a higher level of competition in the auction may reduce the potential for bidders to use bidding information in an anti-competitive manner. Consequently, we asked commenters to address whether we should make the use of anonymous bidding in the 700 MHz auction contingent on a pre-auction assessment of likely competition in the auction, in light of the balance of potential harms and benefits from releasing information on bidder identities and interests during the auction of new 700 MHz Band licenses.[635] We further sought comment on the appropriate method of assessing likely competition in the 700 MHz Band auction.[636] Finally, we sought

[628] *700 MHz Report and Order*, 22 FCC Rcd at 8153 ¶ 246.

[629] 47 C.F.R. § 1.2104(h).

[630] *700 MHz Report and Order*, 22 FCC Rcd at 8153 ¶ 247; *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*").

[631] *See 700 MHz Further Notice*, 22 FCC Rcd at 8153 ¶ 247; *see also Auction No. 66 Procedures Public Notice* at ¶¶ 140-157.

[632] *700 MHz Further Notice*, 22 FCC Rcd at 8154 ¶ 248.

[633] *Id.*

[634] *See, e.g., Auction No. 66 Procedures Public Notice*, 21 FCC Rcd at ¶ 142.

[635] *700 MHz Further Notice*, 22 FCC Rcd at 8154 ¶ 248.

[636] *Id.*

comment on whether the use of anonymous bidding should be a factor in determining the final band plan, given the potential importance of the band and the band plan with respect to competition in broadband services.[637]

277. We received comments both in support of and in opposition to the use of anonymous bidding in the 700 MHz Band auction. Commenters supporting anonymous bidding in response to the *700 MHz Further Notice* elaborate on arguments made in this proceeding prior to the *700 MHz Further Notice*. Some parties have previously asserted that anonymous bidding for new 700 MHz licenses is critical to promoting competitive entry in wireless broadband.[638] In response to the *700 MHz Further Notice*, supporters contend that anonymous bidding would protect bidders against the possibility of retaliatory or "blocking" bids.[639] Frontline asserts that the Commission should use anonymous bidding in the auction of 700 MHz Band licenses because the benefits of disclosing bidding information will be limited but the harms will be substantial.[640] Google notes that anonymous bidding such as the Commission proposes is "not uncommon" in commercial auctions.[641] Another commenter argues from his experience that anonymous bidding is necessary to "level the playing field" between large and small bidders.[642] Verizon Wireless notes that "[i]mposing limitations on the release of bidder information prior to and during the course of an auction ensures that bidders will be appropriately focused on the licenses and their value, not on other bidders and their bidding strategies."[643] In an attempt to buttress the logical and anecdotal arguments supporting anonymous bidding, PISC submitted studies by Gregory Rose that purport to demonstrate that incumbents engaged in retaliatory bidding and used strategies to block new entrants in Auction No. 66, the recent Commission auction of AWS-1 licenses.[644] With respect to how to

---

[637] *700 MHz Further Notice*, 22 FCC Rcd at 8153 ¶ 246. PISC contends that the more licenses the Commission offers, the greater the need for anonymous bidding, to thwart bidders using additional licenses to "signal" other bidders and to protect new entrants attempting to aggregate a larger number of licenses. PISC *700 MHz Further Notice Comments* at 33-34. However, PISC supports anonymous bidding generally, and does not make this position contingent on the band plan adopted. In opposition, MetroPCS notes that the availability of multiple blocks in the band plan makes "blocking" bidding strategies more difficult to implement, thereby lessening any perceived need for anonymous bidding to protect against such strategies. MetroPCS *700 MHz Further Notice* Comments at 47-48. While this observation suggests that the need for anonymous bidding may be less for band plans with larger number of blocks, MetroPCS opposes anonymous bidding generally, and does not make this position contingent on the band plan adopted.

[638] PISC April 3, 2007 *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).

[639] *See* PISC *700 MHz Further Notice* Comments at 30-34; Frontline *700 MHz Further Notice* Comments at 56; Google *700 MHz Further Notice* Comments at 10; McBride *700 MHz Further Notice* Comments at 11; Verizon Wireless *700 MHz Further Notice* Comments at 35-36.

[640] Frontline *700 MHz Further Notice* Comments at 56.

[641] Google *700 MHz Further Notice* Comments at 10.

[642] McBride *700 MHz Further Notice* Comments at 11.

[643] Verizon Wireless *700 MHz Further Notice* Comments at 36.

[644] PISC *700 MHz Further Notice* Comments, Attach. B, C. We do not find that the Rose studies support the claims made by PISC. To support the claim of retaliatory bidding, Rose applies procedures used by Cramton and Schwartz to study an earlier auction and identifies less than two-tenths of one percent of the bids placed in Auction No. 66 as "retaliatory." PISC *700 MHz Further Notice* Comments, Attach. B at 7-9. The Cramton and Schwartz study, however, relied heavily on "code bids" to help focus the search for likely retaliatory bids. Cramton, P. and J. Schwartz, "Collusive Bidding in FCC Spectrum Auctions," *Contributions to Economic Analysis and Policy* I:1 (2002) ("*Cramton and Schwartz*"). Auction No. 66 did not permit bidders to customize bid amounts to place "code bids." PISC *700 MHz Further Notice* Comments, Attach. B at 8. As a result, Rose's application of the Cramton and Schwartz methodology to Auction No. 66 is less likely to produce reliable results. In addition, unlike the Cramton and Schwartz study, Rose does not control for alternative hypotheses before making conclusions about the effects of (continued....)

implement anonymous bidding, several supporters contend that the use of anonymous bidding should not be contingent on a pre-auction assessment of likely competition. PISC contends that participants in Auction No. 66 manipulated the Commission's pre-auction assessment in Auction No. 66,[645] while Verizon Wireless contends that the assessment is insufficient and potentially subject to manipulation.[646]

278. A number of commenters contend that anonymous bidding would disadvantage smaller bidders.[647] These commenters argue that smaller bidders rely on information regarding the identity of other parties placing bids to assess the likely post-auction market, with respect to technologies likely to be deployed and potential partnerships with other licensees, and to provide sufficient assurances to their financiers regarding market valuations.[648] RTG notes that bidders are subject to other sanctions for the anti-competitive behavior that anonymous bidding seeks to prevent.[649] MetroPCS states that it relies on information regarding parties interested in particular markets to assess its ability to differentiate itself

(Continued from previous page)
retaliatory bidding on the auction outcome. *Cramton and Schwartz* at 9. In his study, Rose finds 31 retaliatory bids but does not identify the bidders placing those bids or whether they are incumbents. PISC *700 MHz Further Notice* Comments, Attach. B at 8. Absent such information, the study does not demonstrate its claim that incumbents engaged in retaliatory bidding. Moreover, Rose finds no instances of retaliatory bidding in the REAG block, which appears to be inconsistent with claims in the study that incumbents directed their efforts at denying a national footprint to Wireless DBS, which bid primarily in the REAG blocks. *Id.* at 9.

To argue that bidders in Auction No. 66 engaged in blocking behavior, Rose presents pages of "challenge rates," without defining how the rates are calculated. PISC *700 MHz Further Notice* Comments, Attach. C at 6-9. Without a basic definition, it is impossible to determine whether the numbers are meaningful. Rose asserts that a higher challenge rate indicates blocking behavior. However, a more careful investigation of the bidding activity behind some of the highest rates of challenge suggests nothing irregular. For example, Cellco bid against Command Connect, LLC, six times in rounds 121-132 on the Louisiana-3 (CMA 456) license, which is adjacent to an REAG license on which Cellco was the provisional winner. This behavior earned them an unusually high challenge rate of 8.884 (compared to challenge rates generally between 0 and -1). *Id.* at 8. Atlantic Wireless bid against NTELOS only once, but this single bid somehow earned a very high challenge rate of 4.2286. *Id.* at 16. These examples undermine claims that challenge rates capture any meaningful information, especially in the absence of information on how the rates are derived. Given these and other shortcomings in the Rose studies, the studies do not demonstrate that incumbents engaged in retaliatory and blocking bidding behavior to deter entry in Auction No. 66.

[645] PISC *700 MHz Further Notice* Comments at 33. We note that PISC's theory appears premised on a misunderstanding of the pre-auction application process and the Commission pre-auction assessment of competition. PISC speculates that "[b]ecause the Commission allows parties to correct imperfect applications, parties willing to front 'dummy bidders' to drive up the ratio have the opportunity to game the system with precision. After the initial application round, the parties fronting dummy bidders will correct a sufficient number of applications to ensure that – as happened in the AWS auction – just enough bidders qualify to trigger the open bidding rules." *Id.* Contrary to PISC, the Commission has not based the use of anonymous bidding on the number of qualified applications but rather on the total amount of upfront payments received from qualified bidders. And while the Commission affords applicants an opportunity to correct the data submitted in applications, there is not an analogous opportunity to "correct" upfront payments. Thus, contrary to PISC, the Commission's procedures do not enhance the ability of any party to "game" the system.

[646] Verizon Wireless *700 MHz Further Notice* Comments at 37-38.

[647] *See* USCC *700 MHz Further Notice* Reply Comments at 16-18 (citing comments filed in opposition to anonymous bidding). Prior to the *700 MHz Further Notice*, one party contended that smaller auction participants may encounter difficulties with financing if the Commission withholds information during the auction. *See* 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) at 7.

[648] *See* USCC *700 MHz Further Notice* Reply Comments at 16-18.

[649] RTG *700 MHz Further Notice* Comments at 14-15; USCC *700 MHz Further Notice* Reply Comments at 17. RTG also speculates that larger bidders will have sufficient resources to analyze available bidding information and determine bidder identities, leaving smaller bidders at a relative disadvantage. RTG *700 MHz Further Notice* Comments at 9; USCC *700 MHz Further Notice* Reply Comments at 17.

from potential competitors in a market.[650] Several opponents of anonymous bidding deny any inference that their bidding in past auctions was motivated by "blocking" strategies.[651]

279. A few opponents of anonymous bidding suggest revisions to the Commission's procedures, in the event that the Commission employs anonymous bidding. Alltel proposes that the Commission should disclose round-by-round changes in the bidding eligibility of auction participants.[652] USCC proposes that the Commission make the use of anonymous bidding contingent on a pre-auction assessment of likely competition based on the eligibility ratio, as it did in Auction No. 66.[653] Further, USCC contends that the eligibility ratio of 3.0 used in Auction No. 66 was unnecessarily high and should be lowered to 2.5.[654]

280. Discussion. Based on the current record, we conclude that the public interest will be served if the upcoming auction of 700 MHz Band licenses for which we establish service rules today is conducted using anonymous bidding procedures. We further conclude, based on the current record, that implementation of anonymous bidding procedures during the upcoming auction of new 700 MHz Band licenses should not be contingent on a pre-auction measurement of likely competition based on an eligibility ratio. We find that the record in this proceeding indicates that implementing anonymous bidding procedures will reduce the potential for anti-competitive bidding behavior, including bidding activity that aims to prevent the entry of new competitors.[655] The Commission has delegated to the Wireless Bureau authority to establish auction procedures based on comment solicited shortly prior to the auction.[656] Consistent with that authority, we delegate to the Wireless Bureau the discretion to adopt specific procedures implementing these conclusions, taking into account the further record developed during our standard pre-auction process for establishing auction procedures and the possibility that alternative licenses may be offered at auction as described below.

281. As the Commission noted prior to the AWS-1 auction (Auction No. 66), in the years since the Commission's simultaneous multiple round auction design was developed, economists have observed, as a potential drawback to disclosing information, that bidders could use the information revealed over the multiple rounds to signal each other and implement a division of the licenses at lower than market prices, and in some cases, to retaliate against competing bidders.[657] Since some types of signaling and coordinated bidding are very hard to detect in auction data, making it difficult to pursue enforcement actions after such alleged activity has occurred, it is important to reduce the potential for such collusive bidding behavior to occur in the first place, in circumstances in which we believe collusion is most likely to occur. In addition, it is important to reduce the potential for anti-competitive unilateral behavior, such as retaliatory bidding, which may be used by incumbents to foreclose new entry into a market, even when there is a significant level of competition in an auction. The potential for these types of anti-competitive bidding behavior is greater when an auction offers multiple, substitutable blocks of licenses for sale, when license prices are expected to be relatively high, and when the auction outcome may have a significant effect on post-auction market structure. Given that the auction of new 700 MHz Band licenses is likely to meet these criteria, the potential harm from both coordinated and unilateral

[650] MetroPCS *700 MHz Further Notice* Comments at 47 ("MetroPCS might decide to continue bidding at a higher per pop price in this market, as compared to moving to a lower cost market containing new entrants with business plans less distinguishable from that of MetroPCS.")

[651] *See* USCC *700 MHz Further Notice* Reply Comments at 18-19 & n.37 (summarizing comments by Aloha, AT&T, MetroPCS, and SpectrumCo).

[652] Alltel *700 MHz Further Notice* Comments at 9-10.

[653] USCC *700 MHz Further Notice* Reply Comments at 16.

[654] USCC *700 MHz Further Notice* Reply Comments at 17.

[655] As discussed earlier, we do not rely on the Rose studies as a basis for this conclusion.

[656] 47 C.F.R. §§ 0.131, 0.331.

[657] "Auction of Advanced Wireless Services Licenses Scheduled for June 29, 2006; Comment Sought on Reserve Prices or Minimum Opening Bids and Other Procedures," *Public Notice*, 21 FCC Rcd 794, 799 (2006).

behavior that is facilitated by full information on bidders' interests and bidding behavior appears likely to outweigh the benefits. We note that the Commission has successfully conducted bidding using procedures to limit disclosure of certain information on bidder interests and identities prior to the close of the auction.[658]

282. Although some potential bidders may find information regarding bidding by other parties useful, on balance this benefit likely is substantially outweighed by the enhanced competitiveness and economic efficiency of the auction that will result from withholding public release of certain information about bids and bidder identities prior to and during the upcoming 700 MHz Band auction. We disagree with those commenters that contend that use of the information outweighs potential anti-competitive uses of bidding information to deter or exclude new entrants. Given the inherent uncertainties regarding future technologies that may be used in the 700 MHz Band, we conclude that the benefit to some bidders of having detailed information regarding bidding by others cannot outweigh the potential anti-competitive use of such information. The potential benefit of knowing the identity of other parties placing bids for particular licenses appears likely to be less in this auction than in past Commission auctions, in light of the early stage of development with respect to new services in these frequencies.[659] We are not persuaded by USCC's contention that such uncertainties only heighten the importance of bidding information.[660] Uncertainties regarding what market leaders and equipment manufacturers might do in this band after it is licensed will not be substantially mitigated during the auction by information regarding the identities of parties placing bids. Moreover, bidding information during the auction is not the only source of information regarding technologies likely to be deployed in this band. Anonymous bidding does not "blackout" all information about the plans of market leaders and equipment suppliers in 700 MHz, any more than bidding information provides certainty regarding what those plans ultimately will be. Furthermore, even under anonymous bidding procedures, the Commission has disclosed the identity of parties participating in the auction.[661] Finally, we find Alltel's proposal to disclose round-by-round changes in the bidding eligibility of auction participants to be inconsistent with our conclusions here.

283. As indicated above, for several reasons we also conclude that we should employ anonymous bidding procedures even if the pre-auction eligibility ratio indicates that competition in the auction will be significant. First, anonymous bidding is unlikely to result in the loss of significant benefits from disclosing detailed bidding information during the auction, given that existing uncertainties make the likelihood of any such benefits relatively low in this band. Second, even in an auction with many competitors, individual bidders still could use retaliatory bidding unilaterally to block market entry. Finally, we also note that the eligibility ratio is inherently a very rough measure of competition in an auction, as it is not unusual for a bidder to submit an upfront payment and never place a bid or for a bidder to fail to utilize the full eligibility its upfront payment provides. Accordingly, we conclude that the Commission's final implementation of anonymous bidding procedures should not be made contingent on any pre-auction eligibility ratio assessment of likely competition in the auction.

284. For all the above reasons, we conclude that the record regarding the available 700 MHz Band licenses and our recent experience with anonymous bidding in other auctions indicate that the Commission's statutory mandates under Section 309(j)(3) of the Communications Act would better be served by adopting anonymous bidding procedures for the upcoming auction of 700 MHz Band licenses.

---

[658] *See, e.g.*, "Auction of Broadband PCS Spectrum Licenses Closes; Winning Bidders Announced for Auction No. 71," *Public Notice*, 22 FCC Rcd 9247 (2007). The Commission also established anonymous bidding procedures for two other auctions (Auctions 66 and 69) contingent on a pre-auction assessment on the likely competitiveness of the auction. Since the competitiveness threshold was met in those two auctions, the bidding was conducted with full information disclosure between bidding rounds. We note that with respect to three of the four auctions for which comment has been sought on anonymous bidding procedures, there were no comments at all submitted on the anonymous bidding issue.

[659] PISC *700 MHz Further Notice* Comments at 32.

[660] USCC *700 MHz Further Notice* Reply Comments at 18.

[661] *See* Auction of Broadband PCS Spectrum Licenses, 23 Bidders Qualified to Participate in Auction 71; Limited Information Procedures to be Used," DA 07-1921, *Public Notice*, 22 FCC Rcd 8347 (2007).

Such procedures should withhold from public release until after the auction closes any information that may indicate specific applicants' interests in the auction, including information such as their license selections and the identities of bidders placing bids or taking other bidding-related actions, such as withdrawals. We further conclude that the implementation of anonymous bidding procedures in the upcoming auction of new 700 MHz Band licenses should not be contingent on the likely level of auction competition indicated by pre-auction bidder eligibility. Accordingly, we direct the Wireless Bureau to propose and seek comment on detailed anonymous bidding procedures for the upcoming auction of the 700 MHz Band licenses consistent with these conclusions, including how anonymous bidding would impact a potential re-auction of one or more spectrum blocks if the reserve prices for the individual blocks are not met, and any additional continuation or alteration to the anonymous bidding rules necessary to preserve the integrity of the subsequent auction.

b. Declaratory Ruling on Anti-Collusion Rule Reporting Requirement

285. To further our policy of preventing collusive behavior in Commission auctions, we take this opportunity to clarify by declaratory ruling and conforming textual edit the obligation that applicants in Commission auctions have to report any communications of bids or bidding strategies that are prohibited by Section 1.2105(c)(1) of the Commission's rules.[662] Pursuant to Section 1.2105(c)(6), any applicant that makes or receives such a communication shall report such communication in writing to the Commission immediately, and in no case later than five business days after the communication occurs.[663] As noted in the Commission's Order adopting Section 1.2105(c)(6), the Commission cannot "take on the impossible task of screening all applicant communications" and, therefore, "the responsibility for identifying potentially unauthorized communications [must fall] on auction applicants."[664] The reports provided by applicants are essential to the Commission's ability to enforce its rule. Absent such reports, parties might find it easy to evade enforcement for extended periods of time, and possibly altogether.

286. Accordingly, the reporting requirement "obligate[s] parties to notify the Commission of communications that appear to violate the anti-collusion rule and to allow the Commission to determine whether a violation has occurred."[665] Consistent with this purpose, applicants have a continuous obligation to make such reports extending beyond the five business days after the communication occurs. This declaratory ruling, and the conforming modification of Section 1.2105(c)(6), expressly state the continuing nature of this obligation. We thus clarify that the Commission can and will enforce the obligation so long as it remains unfulfilled. We emphasize the continuing nature of the duty to report to preclude any attempt to evade the obligation by waiting out the expiration of the statute of limitations applicable for the enforcement of forfeitures[666] and to reinforce our ability to detect collusion, which is critical to our ability to enforce and thereby discourage collusive behavior in our auctions.

c. Package Bidding

287. Background. In the *700 MHz Further Notice*, we sought comment on whether to permit package bidding for one or two Upper 700 MHz blocks in some proposed band plans in order to facilitate license aggregation providing a nationwide footprint of 11- or 22-megahertz spectrum blocks.[667] With package bidding, a bidder may place an all-or-nothing bid on multiple licenses, and thereby avoid the risk

[662] *See* 47 C.F.R. § 1.2105(c)(1).

[663] 47 C.F.R. § 1.2105(c)(6).

[664] Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures, *Seventh Report and Order*, 16 FCC Rcd 17546, 17554 ¶ 15 (2001).

[665] Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures, *Seventh Report and Order*, 16 FCC Rcd 17546, 17554 ¶ 15 (2001).

[666] *See* 47 U.S.C. § 503(b)(6).

[667] *See 700 MHz Further Notice*, 22 FCC Rcd at 8134 ¶ 191 (Band Plan Proposal 1, package bidding for 22 megahertz REAG C Block); ¶ 202 (Band Plan Proposal 4, package bidding for 11 megahertz REAG C Block and/or 11 megahertz REAG or EA D Block), 8139 ¶ 206 (Band Plan Proposal 5, package bidding for 11 megahertz C Block).

of winning less than all the licenses needed to justify its bid. For example, a bidder whose business plan is premised on realizing economies of scale may need to win a large number of licenses in order to justify the bid that it would make if it could win all of them. The risk of winning less than all the licenses needed to support the amount of the aggregate bid is sometimes known as the "exposure problem." As noted in the *700 MHz Report and Order*, our current competitive bidding rules authorize the use of package bidding.[668] Consequently, no modifications to the competitive bidding rules are needed in order to conduct package bidding as contemplated herein.

288. Commenters are divided on the issue of package bidding for the upcoming auction of new 700 MHz Band licenses. Commenters that support package bidding contend that it is essential for a new entrant seeking to aggregate licenses and offer service nationwide.[669] AT&T asserts that "a bidder whose business model requires nationwide coverage to achieve adequate scale for new technologies and new devices may not be able to participate in the bidding unless package bidding is an option."[670] The 4G Coalition notes that by increasing the range of potential bidders and competition for the licenses package bidding may enhance the Commission's licensing process, regardless of whether any of the ultimate licensees use package bidding.[671] In addition, an exhibit to Frontline's comments observes that, absent package bidding, the exposure problem creates an opportunity for competitors to block a would-be package bidder without actually competing for all of the licenses in the package.[672] In the event the Commission adopts package bidding, a few additional commenters support package bidding in bands with small licenses.[673]

289. Most commenters that oppose package bidding contend that any form of package bidding will disadvantage bidders not bidding on packages.[674] Alltel contends that package bidding to facilitate a nationwide package amounts to "giving away the spectrum on a nationwide basis."[675] Others contend that the Commission's auction provides sufficient opportunities to assemble a nationwide footprint without package bidding.[676] Finally, some commenters contend that the Commission does not have sufficient time to address outstanding design issues regarding an appropriate form of package bidding for the 700 MHz auction, particularly if the Commission elects to permit package bids on some, but not all, blocks of licenses.[677] USCC and Verizon Wireless, in particular, make various assumptions about the potential details of the auction design and raise concerns based on their assumptions.[678]

---

[668] *700 MHz Report and Order*, 22 FCC Rcd at 8091 ¶ 69.

[669] *See, e.g.*, Google *700 MHz Further Notice* Comments at 7-8.

[670] AT&T *700 MHz Further Notice Comments* at 35.

[671] 4G Coalition *700 MHz Further Notice* Comments at 10-12.

[672] Frontline *700 MHz Further Notice* Comments, Exhibit 1 at 22-23.

[673] Embarq *700 MHz Further Notice* Comments at 5-7; *see* Alltel *700 MHz Further Notice* Comments at 9-10 (otherwise opposed to package bidding generally, Alltel asserts that if used package bidding should be used with blocks licensed by CMA).

[674] *See* Aloha *700 MHz Further Notice* Comments at 7-8; Blooston *700 MHz Further Notice* Comments at 10; Cellular South *700 MHz Further Notice* Comments at 16; Leap *700 MHz Further Notice* Comments at 9; MetroPCS *700 MHz Further Notice* Comments at 22; RCA *700 MHz Further Notice* Comments at 18; RTG *700 MHz Further Notice* Comments at 16.

[675] Alltel *700 MHz Further Notice* Comments at 10.

[676] SpectrumCo *700 MHz Further Notice* Comments at 16; Verizon Wireless *700 MHz Further Notice* Comments at 39; USCC *700 MHz Further Notice* Reply Comments at 10.

[677] Verizon Wireless *700 MHz Further Notice* Comments at 43.

[678] Verizon Wireless *700 MHz Further Notice* Comments at 38-43 (objecting to the assumed details of a purported "hybrid" auction); USCC *700 MHz Further Notice* Comments at 14-16 (assuming that recently released experiments present all the pertinent details of a package bidding auction design).

290. Discussion. Based on the current record, we conclude that package bidding with respect to licenses in the Upper 700 MHz Band C Block would serve the public interest by reducing the exposure problem that might otherwise inhibit bidders seeking to create a nationwide footprint. Minimizing the exposure problem with package bidding should facilitate the entry of applicants whose business plans require the economies of scale that only can be obtained with nationwide operation. We anticipate that package bidding can be implemented so as to shield such bidders from a potential significant exposure problem. Importantly, we also anticipate that it can be implemented without imposing disadvantages on parties that wish to bid on individual licenses comprising the nationwide footprint. Thus, the use of package bidding for licenses in the Upper 700 MHz Band C Block facilitates direct competition between competing business plans, without predetermining the outcome or favoring one business plan over the other.

291. We further conclude that the public interest in minimizing the exposure problem for applicants whose business plans require nationwide economies of scale is satisfied by providing package bidding solely with respect to licenses for the Upper 700 MHz Band C Block spectrum. The C Block provides applicants with 22 megahertz of bandwidth (comprised of paired 11-megahertz blocks), enough to enable a new entrant to offer a wide range of service without any additional licenses. Limiting package bidding to licenses for C Block spectrum will prevent package bidding from deterring participation by bidders, if any, that for any reason are completely unwilling to compete against package bids. The variety of blocks and licenses not subject to package bidding provides bidders unwilling to compete with package bids with a wide array of opportunities.[679] Finally, while it is in the public interest to enable bidders to minimize their exposure risk to an extent consistent with other public interest goals, we do not conclude that we need auction all 700 MHz Band licenses in a manner that minimizes the exposure risk. Although they would be subject to some exposure risk, bidders seeking to aggregate multiple licenses in other blocks of 700 MHz Band spectrum will not be precluded from attempting to aggregate licenses in the absence of package bidding.

292. Accordingly, we direct the Wireless Bureau, pursuant to its delegated authority and pre-auction process, to propose and implement detailed package bidding procedures for the auction of the Upper 700 MHz Band C Block licenses, taking into account the goals we have articulated for package bidding and the concerns raised in this record.[680] More specifically, the Wireless Bureau should propose an auction design that includes package bidding for the C Block licenses to facilitate the entry of a new nationwide competitor in that block, while not introducing undue difficulties for bidders on licenses in that block that do not desire a nationwide license. The Wireless Bureau should also explore the use of package bidding for any blocks subject to re-auction in the event that a reserve price is not met. The Wireless Bureau, consistent with its delegated authority and pre-auction process, may revise its proposal prior to implementation in the auction. In order to facilitate compliance with the statutory deadlines applicable to the auction of 700 MHz Band licenses, the Wireless Bureau has delegated authority to conduct an auction without package bidding for the Upper 700 MHz Band C Block licenses in the event that currently unforeseen difficulties make it impracticable to implement package bidding for the C Block consistent with the goals we have articulated here. Finally, consistent with our conclusions today, we direct the Wireless Bureau to adopt procedures for the auction of licenses in other blocks of 700 MHz Band spectrum without the use of package bidding.

d. "New Entrant" Bidding Credit

293. Background. As discussed elsewhere, we have concluded that we should not restrict eligibility to hold any licenses in the 700 MHz Band based upon concerns about competition in the market for broadband services. As an alternative to limiting the parties eligible for new licenses in the 700 MHz Band, we also sought comment on whether parties unaffiliated with incumbent wireline broadband service providers should receive a bidding credit on licenses in one or more blocks of the

[679] Google *700 MHz Further Notice* Comments at 8.

[680] 47 C.F.R. §§ 0.131, 0.331.

Upper 700 MHz Band spectrum.[681] Further comment was requested regarding how any 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.[682]

294. The possibility of granting "new entrant" bidding credits attracted far less comment than other issues relating to the auction of the 700 MHz licenses. Those parties that responded are divided on the need for a "new entrant" bidding credit.[683] PISC supports such a credit, while acknowledging difficulties in implementing one.[684] Google also supports such a credit, arguing that existing infrastructure gives incumbents a material advantage against other competitors, regardless of their relative financial resources.[685] Although Frontline itself does not advocate such a credit, a study it submitted with its comments does.[686] Finally, McBride also supports the idea of such a credit, to "level the playing field."[687]

295. In its comments, Wirefree Partners argues that the Commission should limit bidding credits to designated entities.[688] In its reply comments, AT&T opposed a new entrant bidding credit as poorly defined, unsupported by the record, and not necessary to serve the public interest.[689]

296. Discussion. Particularly given the scant record on a "new entrant" bidding credit, and the open issue of how to define a "new entrant" in this context, we are not persuaded that we should grant a "new entrant" bidding credit for 700 MHz Band licenses. Various aspects of the licensing process to be used for new 700 MHz Band licenses will facilitate the entry of new service providers. First and foremost, the Commission will make available multiple licenses in each and every market. Moreover, the varied geographic sizes of the licenses offered in this band, coupled with the large number of licenses, should offer new ventures a variety of opportunities to provide service. In addition, we have directed the Wireless Bureau to develop a package bidding proposal to facilitate new entrants hoping to operate on a nationwide scale. Furthermore, we offer substantial bidding credits to small businesses, many of which may be new entrants in the spectrum services market. In light of all these provisions, we are not persuaded that an additional "new entrant" bidding credit is necessary to serve the public interest. Google's observation that parties with existing infrastructure may have an advantage over other bidders does not, by itself, justify granting a bidding credit to parties without such infrastructure. Accordingly, we conclude that we do not need to compound the discounts already offered to small new entrants by existing designated entity bidding credits, or to offer large, nationwide new entrants significant discounts on their bids.

---

[681] *700 MHz Further Notice*, 22 FCC Rcd at 8144 ¶ 221.

[682] *700 MHz Further Notice*, 22 FCC Rcd at 8144 ¶ 221.

[683] Some parties responded with alternatives appear to be beyond the scope of the *700 MHz Further Notice*. Alltel proposed that rather than grant a credit to new entrants, the Commission charge incumbents a premium. Alltel *700 MHz Further Notice* Comments at 14; *see also* AT&T *700 MHz Further Notice* Reply Comments at 9, n.30 (arguing that the perimum is beyond the scope of the notice provided for by the *700 MHz Further Notice*. WISPA proposes a 20 percent credit for existing broadband service providers, identified as parties filing FCC Form 477, that do not have "material relationships" with a "large wireless carrier" or a "large cable operator," when bidding on licenses in rural CMAs. WISPA *700 MHz Further Notice* Comments at 7-12; *see also* USA Broadband *700 MHz Further Notice Reply Comments* at 3 (supporting WISPA proposal). Whatever merits such a targeted credit might have, it is not as a general new entrant bidding credit.

[684] PISC *700 MHz Further Notice* Comments at 35.

[685] Google *700 MHz Further Notice* Comments at 9-10.

[686] Frontline *700 MHz Further Notice* Comments, Exhibit 1 at 23-25.

[687] McBride *700 MHz Further Notice* Comments at 8.

[688] Wirefree Partners *700 MHz Further Notice* Comments at 7-8.

[689] AT&T *700 MHz Further Notice* Comments at 9-10 (citing Wirefree Partners).

e. Reserve Prices

297. Background. In the Balanced Budget Act of 1997, Congress directed the Commission to prescribe methods by which to establish reasonable reserve prices or minimum opening bids for licenses subject to auction, unless the Commission determines that such reserve prices or minimum opening bids are not in the public interest.[690] This statutory mandate creates a presumption that reserve prices or minimum bids are required.[691] In the past, the Commission, as a general matter, has considered establishing publicly disclosed or undisclosed reserve prices, and has set publicly disclosed reserve prices in some cases, during the process of establishing auction-specific procedures.[692] In the Commercial Spectrum Enhancement Act,[693] Congress mandated the use of a reserve price for the Commission's auction of Advanced Wireless Services (AWS) spectrum in the 1710-1755 MHz band to ensure recovery of relocation costs for government incumbent operators in that band.[694]

298. Discussion. We conclude that we should provide for separate aggregate reserve prices for each block of licenses to promote our statutory objective of recovering for the public a portion of the value of the public spectrum resource.[695] If the auction results for the licenses in any block satisfy the aggregate reserve for that block, all licenses in the block will be assigned based on the auction results, subject to completion of the licensing process, including review of applicants' qualifications. The separate aggregate reserve prices should, taken together, reflect current assessments of the potential market value of this spectrum based on various factors including, but not limited to, the characteristics of this band and the value of other recently auctioned licenses, such as licenses for Advanced Wireless Services.

299. We recognize that assigning 700 MHz licenses as promptly as possible will further the significant public interest in the development and rapid deployment of new services and the timely recovery of a portion of the public value with respect to the 700 MHz Band. Accordingly, in the event that licenses are not assigned because the applicable block-specific aggregate reserve is not met, 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. Our rules also provide for the possibility of re-offering the D Block license in a subsequent auction. This will maximize the likelihood that we can recover an appropriate portion of the value of the public spectrum resource and license this valuable spectrum for new uses by February 18, 2009, when the spectrum is to be clear of existing uses.

300. *Block-Specific Aggregate Reserve Prices.* In this proceeding, we have adopted a variety of provisions regarding the use of the 700 MHz Band spectrum to serve the public interest. As in any proceeding establishing service rules for licenses authorizing use of the public spectrum resource, we are obliged to consider and balance a variety of public interests and objectives. In addition, we are required,

---

[690] Balanced Budget Act of 1997, Pub. Law 105-33, 111 Stat. 251 (1997) (codified at 47 U.S.C. § 309(j)(4)(F)). The Commission's competitive bidding rules have, since their inception, allowed for the use of reserve prices. *See* Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, *Second Report and Order*, 9 FCC Rcd 2348, 2384 ¶¶ 206-07, 2387 ¶ 224 (1994); 47 C.F.R. § 1.2104(c) (1994-present).

[691] *See* Auction of 800 MHz SMR Upper 10 MHz Band; Minimum Opening Bids or Reserve Prices, *Order*, 12 FCC Rcd 16354, 16358 ¶ 11 (WTB 1997).

[692] *See, e.g.*, Auction of Advanced Wireless Services Licenses Schedule for June 29, 2006, Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Procedures for Auction No. 66, Public Notice, 21 FCC Rcd 4562 (2006) (setting a publicly disclosed reserve price); Auction of Licenses in the 747-762 and 777-792 MHz Bands Scheduled for June 19, 2002, DA 02-260, *Public Notice*, 17 FCC Rcd 2117, 2122-23 (2002) (seeking comment on whether to set a publicly disclosed or undisclosed reserve price).

[693] Commercial Spectrum Enhancement Act, Pub. L. No. 108-494, 118 Stat. 3986, Title II (2004) (codified in scattered sections of Title 47 of the United States Code).

[694] *Id.*, § 203(b) (Section 203(b) amended Section 309(j) of the Communications Act by adding at the end a new paragraph (15)).

[695] 47 U.S.C. § 309(j)(3)(C).

in establishing the competitive bidding process for assigning the licenses to seek to promote the purposes specified in Section 1 of the Communications Act and a number of objectives. Among those objectives is the efficient and intensive use of the electromagnetic spectrum as well as the recovery for the public of a portion of the value of the public spectrum resource.[696]

301. Consistent with this objective, Congress has required that when adopting regulations for conducting competitive bidding, the Commission shall prescribe methods by which a reasonable reserve price will be required unless we determine that such a reserve price is not in the public interest.[697] In these circumstances, to safeguard against the possibility that various factors, including but not limited to the service rules we adopt today, might interfere with the recovery of a portion of the value of the public spectrum resource, we conclude that the public interest requires a separate aggregate reserve price for each block of the 700 MHz Band licenses subject to competitive bidding in the upcoming auction.[698] The reserve prices will be in addition to, and separate and apart from, any minimum opening bid amounts that may be established for purposes of the upcoming auction. If the aggregate reserve is met for any block, all licenses in that block that receive winning bids will be eligible for licensing subject to the completion of our review of long-form license applications.

302. Given the array of different conditions imposed on the licenses for different blocks, we recognize that bidders may place sufficient value on licenses in a particular block to satisfy the reserve applicable to that block even though interest in licenses in another block may be too low to satisfy the latter block's aggregate reserve. Block-specific aggregate reserve prices will facilitate licensing specific blocks based on block-specific auction results. We therefore direct the Wireless Bureau, pursuant to its existing delegated authority, to adopt auction procedures that will enable licensing of specific blocks provided that the auction results satisfy the block-specific reserve prices. In this regard, we note that under procedures typical of Commission auctions, a bidder would be able to raise its own provisionally winning bid(s) to attempt to satisfy the reserve price for licenses in any spectrum block.

303. Enabling licensing to proceed on a block-specific basis furthers our statutory objective of promoting the development and rapid deployment of new technologies, products, and services for the benefit of the public.[699] If there is sufficient interest in and value placed on licenses in a particular block, it follows that we should make every effort to assign those licenses, consistent with our other statutory objectives, including recovery for the public of a portion of the value of the public spectrum resource. We conclude that it is appropriate to assess interest in licenses in this context on a block-by-block basis. While licenses across some blocks have greater similarities than licenses across others, for example licenses for the A and B Blocks arguably are more similar than licenses for the A and C Blocks, each block is sufficiently distinct with respect to geographic license area, spectral location, spectrum bandwidth, and service rules, that it is appropriate to consider assigning licenses in each block based on auction results for licenses in that block alone.

304. We direct the Wireless Bureau to adopt and publicly disclose block-specific aggregate reserve prices, pursuant to its existing delegated authority and its regular pre-auction process, consistent with our conclusions. Given our intent that the reserve prices should maximize the possibility of recovering an appropriate portion of the value of the public spectrum resource while enabling licensing as promptly as possible, the Wireless Bureau should establish the particular amounts of the block-specific aggregate reserves by taking into account a conservative estimate of market value based on auction results for AWS-1 spectrum licenses. For example, if we were to use the AWS-1 auction results as a guide, the

[696] *See, e.g.*, 47 U.S.C. § 309(j)(3)(C) & (D).

[697] 47 U.S.C. § 309(j)(4)(F).

[698] This includes the D Block license, which will be subject to various conditions related to the 700 MHz Public/Private Partnership.

[699] *See* 47 U.S.C. § 309(j)(3)(A).

total of the aggregate reserves for this auction would amount to about $10.4 billion.[700] For several reasons, using AWS-1 auction results might be an appropriate approach for setting block-specific reserve prices reflecting a conservative estimate of final market value. For instance, spectrum in the 700 MHz Band possesses superior propagation characteristics to AWS-1 spectrum. In addition, as of February 18, 2009, the 700 MHz Band spectrum will be completely unencumbered, while full access to AWS-1 spectrum requires the relocation of both Government and commercial incumbent users. Thus, other factors aside, 700 MHz Band licenses with comparable geographic service areas and bandwidth should have a higher market value on a per-megahertz basis than AWS-1 licenses. In setting block-specific reserve prices, the Bureau should also give due consideration to Congress's view as to the value of the spectrum, as reflected in Congressional mandates regarding the uses for revenues from this auction.[701]

305. More specifically, the Wireless Bureau should consider the following factors when setting the block-specific aggregate reserves. The detailed rules regarding the D Block license, the D Block licensee's required construction of a network to be shared by public safety service users, and the resulting limitations on the flexibility of the D Block licensee, should be given substantial weight in assessing the D Block's value. Based solely on geographic area and spectrum block size, AWS-1 auction results might suggest a D Block reserve of $1.7 billion. However, in light of the D Block license conditions essential to the public safety purpose of the public/private partnership, it might be appropriate to expect the D Block licensee to contribute only about 75 percent to 80 percent of such an amount, or about $1.33 billion. In addition, when determining relative valuation of other blocks, the Wireless Bureau should consider the relative valuation of differing blocks in the recent auction of AWS-1 licenses.

306. *Subsequent Auction of Alternative Licenses.* We recognize that it is possible that the auction results may not satisfy one or more of the block-specific reserves. In that event, we establish a process to enable the assignment of alternative licenses for the A, B, C, and E Blocks of the 700 MHz Band as soon as possible in order to promote the speedy deployment of services utilizing 700 MHz Band spectrum. Under our rules, the license for the D Block may also be re-offered in a subsequent auction. Given the highly useful nature of the underlying spectrum, there is a strong public interest in promptly assigning all 700 MHz Band licenses for recovered analog spectrum. Congress has expressly provided that all incumbent analog television broadcasters must be cleared from this spectrum before February 18, 2009.[702] It would not be possible to fully reconsider the conditions and the band plan as well as potential alternatives without significantly delaying the licensing of the spectrum. Such delays in licensing this spectrum could thwart the public interest in new licensees being able to offer services as soon as possible after the 700 MHz Band is cleared of incumbent broadcasters. Furthermore, delays in licensing would delay the recovery of a portion of the value of the public spectrum resource, already anticipated by Congress. We have an extensive record in response to the *700 MHz Further Notice* and have no reason to believe that further proceedings would result in substantially different conclusions regarding the band plan and the various license conditions we adopt today.

[700] Aggregate reserve price calculation for 700 MHz Band auction based on Auction No. 66 (AWS) bids:

700 MHz Block	700 MHz Bandwidth (MHz)	Geographic Area Type	Comparable AWS Block	AWS Bandwidth (MHz)	Bandwidth Ratio 700/AWS	AWS Bids	700 MHz Reserve*
A	12	EA	C	10	1.2	$1,491,238,000	$1,789,485,600
B	12	CMA	A	20	0.6	$2,268,029,200	$1,360,817,520
E	6	EA	C	10	0.6	$1,491,238,000	$894,742,800
C	22	REAG	F	20	1.1	$4,174,486,000	$4,591,934,600
D	10	Nationwide**	D and E	10	1.0	$1,749,031,000	$1,749,031,000
Total	62						$10,386,011,520

* Calculated as the bandwidth ratio times AWS bids.

** Since AWS did not have any nationwide licenses, reserve price calculation is based on 10 MHz REAG licenses.

Auction No. 66 results are available at http://wireless.fcc.gov/auctions/66/.

[701] These mandates total $10.1825 billion. *See* DTV Act, §§ 3005-3012; 47 U.S.C. § 309(j)(8)(E)(iii).

[702] DTV Act, § 3002(b)(1).

307. Our statutory authority to provide for reserve prices enables us to withhold assignment of licenses so that they may be offered again in the future under circumstances that will more effectively benefit the public.[703] Accordingly, we establish a process to enable the assignment of alternative licenses as soon as possible in the event that the relevant block-specific aggregate reserve price is not met when those licenses are first offered. Specifically, we will offer the more flexible, less conditioned licenses described below in the A, B, C, and E Blocks as soon as possible after the first auction.[704] This will address the possibilities that license conditions adopted today significantly reduce values bidders ascribe to those licenses and/or have unanticipated negative consequences. Given the unique character of the D Block license conditions, we leave open the possibilities of reevaluating those conditions or of promptly offering that license again in a subsequent auction, in the event the D Block-specific reserve is not met.

308. We provide further below that the auction of alternative licenses shall be subject to the same applicable reserve prices as the initial auction of licenses. The Wireless Bureau has delegated authority, however, to determine the appropriate means of reapportioning the reserve associated with the C Block in light of our determination below to split the block into two should a re-auction occur. This assures both that any initial and subsequent auctions will be as similar as possible (other than with respect to particular license terms detailed below) and also that the final assignment of the licenses will be based only on which licenses are able to serve the statutory goal of recovering a portion of the value of the public spectrum resource fixed in advance of the auction. In other words, we are balancing essential goals of assigning licenses on terms that serve the public interest, both with respect to service provided by licensees and recovery of value, rather than attempting to maximize revenue. In this vein, we note that, in light of all the relevant factors discussed above, we anticipate that the reserve price for the C Block would be approximately $4.6 billion.

309. *Performance Requirements for Alternative Licenses.* As discussed in detail elsewhere, in order to better promote access to spectrum and the provision of service, especially in rural areas, we have replaced the current "substantial service" requirements for the 700 MHz Band licenses that have not been auctioned with significantly more stringent performance requirements. We are adopting these rigorous requirements in an effort to ensure that licensees put this spectrum to use throughout the course of their license terms and their license areas.

310. It is possible, however, that the geographic area benchmarks we adopt for the A, B, and E Block licenses might result in a reduction in the monetary value of the licenses, thus reflecting potential flaws in our determinations regarding the public interest value of the imposed conditions. We conclude that a failure of the auction results for the A, B, and E Block licenses to satisfy the applicable block-specific aggregate reserve should result in a prompt offering of alternative licenses for the relevant block(s) that are subject to performance requirements with the population benchmark regime we have adopted for the C Block licenses.

311. *Changes to Alternative C Block Licenses.* As discussed elsewhere, we have concluded based on the extensive record in this proceeding that certain open platform conditions on the C Block licenses serve the public interest and that the conditions will permit licensee(s) to make effective and efficient use of the spectrum. Based on the record in this proceeding, we conclude that in the event that auction results for conditioned Upper 700 MHz C Block licenses do not satisfy the aggregate reserve price for the C Block, we will offer as soon as possible licenses for the C Block without the open platform conditions.

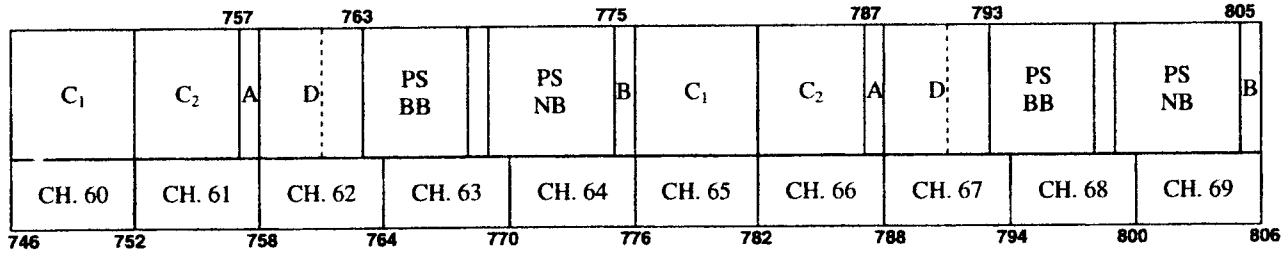
312. Similarly, we will modify the C Block band plan. In this regard, we note that Frontline Wireless contends that the licensing plan supported by Verizon is intended to discourage new entrants and competitors that would not be interested in, or financially capable of, bidding on REAG licenses without

[703] *See* 47 U.S.C. § 309(j)(4)(F); 47 C.F.R. § 1.2104(c); *see also* Auction of 800 MHz SMR Upper 10 MHz Band; Minimum Opening Bids or Reserve Prices, *Order*, 12 FCC Rcd 16354, 16358 ¶ 11 (WTB 1997).

[704] We provide here for alternative licenses in the A, B, C, and E Blocks of the 700 MHz Band only in the event that all licenses in one of those blocks are not assigned because the auction results do not satisfy the applicable block-specific reserve price for the licenses originally offered.

package bidding.[705] It maintains that the use of REAG licenses would result in limited competition, with few likely bidders other than Verizon and AT&T for such licenses.[706] To provide different opportunities for the different mix of bidders, consistent with established auction procedures, that may be interested in the unconditioned C Block licenses, we will reconfigure the bandwidth of the licenses, as set out in the Figure below, to create two paired blocks of 6 and 5 megahertz each, which we will label the C1 and C2 Blocks. Further, we will license the C1 Block based on EAs and the C2 Block based on REAGs. We believe that in the event that the conditioned 700 MHz Band licenses are not assigned due to a failure to meet the reserve price and that the open platform conditions are lifted, reconfiguring the band plan in this way will serve the public interest by providing licenses under circumstances that may have more appeal to certain bidders.

FIGURE 11: SPLIT C BLOCK PLAN



Block	Frequencies	Bandwidth	Pairing	Area Type	Licenses
C_1	746-752, 776-782	12 MHz	2 x 6 MHz	EA	176
C_2	752-757, 782-787	10 MHz	2 x 5 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**

*Block is associated with the 700 MHz Public/Private Partnership.
**Guard Bands block has been auctioned, but is being relocated.

313. It has been suggested that a decision to reauction reconfigured C Block licenses without open platform restrictions in the event that the bids for the C Block licenses fail to meet the reserve price, is "an allocation decision being driven by revenue considerations," in violation of Section 309(j)(7)(A), and not by the public interest value of the requirements.[707] The treatment of these licenses under such a reauction scenario, however, reflects our determination that the cost of the open platform requirements to wireless service providers – evidenced by the magnitude of the devalued bids – would reveal a significant problem with the requirements, such as a greater negative impact on network operations than we are predicting. As such, our assessment of the net public interest benefit of imposing these requirements (*i.e.*, the benefit of fostering the development of innovative devices and applications vs. the potential negative effects on network operations) changes. We believe that these circumstances, (*i.e.*, the failure of the auction results for conditioned C Block licenses to satisfy the C Block-specific reserve price) are unlikely to occur. But if they do, they provide sufficient evidence to conclude that we have weighed the public interest balance incorrectly, and that the cost of the open platform restrictions was too high – not because the auction would have failed to generate enough Federal revenue, but because the low level of bidding

[705] July 2, 2007 Letter from Gerard J. Waldron, Covington & Burling LLP, Counsel to Frontline Wireless, LLC, with attached slide deck "Verizon's Spectrum Grab: Summary of Economic Arguments," slides 10-13.

[706] *Id.*

[707] *See* Frontline July 23, 2007 *Ex Parte* letter at 2. 47 U.S.C. § 309(j)(7)(A) provides that "[i]n making a decision pursuant to Section 303(c) to assign a band of frequencies to a use for which licenses or permits will be issued pursuant to this subsection, and in prescribing regulations pursuant to paragraph 4(C) of this subsection, the Commission may not base a finding of public interest, convenience, and necessity on the expectation of Federal revenues from the use of a system of competitive bidding under this subsection."

would indicate inherent problems with operating a wireless system under this type of open platform regime.[708] In addition, as indicated above, our decision to change the geographic scope and spectrum block sizes under the reauction scenario is based on our determination that it would serve the public interest by providing different opportunities for the different mix of bidders that may be interested in the unconditioned C Block licenses.[709]

314. *D Block License.* With respect to the D Block, we have concluded that the public interest supports adopting unique service rules that will establish a nationwide 10-megahertz commercial license in the Upper 700 MHz Band D Block that will be awarded to the winning bidder once it has entered into a Commission-approved Network Sharing Agreement (NSA) with the Public Safety Broadband Licensee. As detailed elsewhere, this D Block license will require the commercial licensee to construct and operate a nationwide, interoperable broadband network to be used to provide both a commercial service and a broadband network service to public safety entities, across both the D Block and the 700 MHz public safety broadband spectrum.[710] In light of the importance of such a network to the public interest, as well as the difficulty of assessing an appropriate reserve price prior to an initial auction, we conclude that we should not alter the conditions we have adopted today for the D Block license based solely on auction results. As discussed above, we believe that a D Block-specific aggregate reserve of approximately $1.33 billion is appropriate given our goal of enabling the recovery of a portion of the value of the spectrum while also permitting licensing to proceed as quickly as possible. If, however, the D Block-specific aggregate reserve is not met, we conclude that we should leave open the possibility of re-offering the license on the same terms in a subsequent auction, as well as the possibility of re-evaluating all or some of the applicable license conditions.

315. *Auction Procedures.* In providing for a subsequent auction of licenses in the event that the relevant block-specific aggregate reserves are not satisfied, we find it in the public interest to utilize the same auction design, including the block-specific aggregate reserve price, anonymous bidding, and package bidding, insofar as possible. Accordingly, we direct the Wireless Bureau to adopt for the auction of 700 MHz Band licenses, consistent with its delegated authority and pursuant to its routine pre-auction process, procedures that will enable a prompt subsequent auction of alternative licenses for any block, as described above, in the event that the relevant block-specific aggregate reserve price is not met. This order's provisions with respect to the procedures for the initial auction, including with respect to anonymous and package bidding, will continue to apply in any subsequent auction. Furthermore, the same applicable reserve prices for each block of licenses shall apply in both the initial and subsequent auctions, recognizing that the Wireless Bureau will be required to determine how to allocate the block-specific reserve price for the C Block upon reauction under the split block plan described above. We detail below a few additional auction procedures to further the goal of promptly and effectively assigning these licenses. We direct the Wireless Bureau, consistent with its delegated authority to adopt procedures that will comply with this order and preserve the integrity of any necessary reauction.[711]

316. Given the related nature of the initial auction and any subsequent auction of alternative licenses and to avoid unnecessary delay, we direct the Wireless Bureau to establish procedures that limit qualified bidders in a subsequent auction of alternative licenses to those bidders that qualify to bid in the

---

[708] In any event, we note that the limited Section 309(j)(7) prohibition against basing a public interest finding on the expectation of Federal auction revenues would not apply to our decision regarding the possible removal of the open platform requirement.

[709] As discussed below, because we determine that the auction procedures to be established should limit qualified bidders for any auction of alternative licenses to those that qualify to bid in the auction offering licenses in all blocks of the 700 MHz Band, we note that bidders interested in the alternative C Block licenses will be required to qualify to bid in the upcoming auction that will offer licenses in all blocks.

[710] *700 MHz Further Notice*, 22 FCC Rcd at 8161 ¶ 272.

[711] For example, the Wireless Bureau may be required to adopt procedures to maintain the anonymity of bidders until the completion of the second auction to maintain the integrity of the second auction, prevent collusion, or prevent the disclosure of bidding strategies that would influence the behavior of bidders in the second auction.

upcoming auction offering 700 MHz Band licenses in all of these blocks. Likewise, given the related nature of the initial auction of 700 MHz Band licenses and any subsequent auction of alternative licenses, we find that the applicable "down payment deadline" for purposes of our anti-collusion rule shall be the "down payment deadline" established for the subsequent auction.[712] In addition, because licenses for the same spectrum will be offered in both auctions, and the auctions will take place relatively close in time, we conclude that the purpose of our anti-collusion rule requires that the provisions of that rule continue to apply until the down payment deadline for the subsequent auction. To assure that bidders will have sufficient bidding eligibility to pursue various bidding strategies, we direct the Wireless Bureau to propose and adopt procedures that give applicants an opportunity to obtain bidding eligibility specifically for the alternative licenses, in addition to the initial licenses.

317. The Wireless Bureau also should consider any additional procedures within its delegated authority that may enhance the effectiveness of our auction of 700 MHz Band licenses in either the initial or subsequent auction. In this regard, we direct the Wireless Bureau to consider what procedures may be appropriate to deter bidders from actions that might thwart the assignment of licenses in either auction. For example, the Wireless Bureau should consider whether otherwise eligible bidders should be denied bidding eligibility in a subsequent auction of unconditioned licenses based on their bidding behavior, *e.g.*, withdrawals, defaults, and/or other actions, in connection with the initial auction.

f. Statutory Deposit Deadline

318. *Background.* Our conduct of this auction is, of course, subject to a statutory deadline for depositing proceeds from the auction of 700 MHz Band licenses in the Digital Television Transition and Public Safety Fund. The DTV Act amended the Communications Act to provide that the Commission "shall deposit the proceeds of such auction in accordance with paragraph (8)(E)(ii) not later than June 30, 2008."[713] In the cross-referenced paragraph, the DTV Act requires that "the proceeds (including deposits and upfront payments from successful bidders) from the use of a competitive bidding system under this subsection with respect to recovered analog spectrum shall be deposited in the Digital Television Transition and Public Safety Fund."[714]

319. *Discussion.* To provide greater certainty for potential bidders, we here set forth our plan for fulfilling our responsibility to comply with this deadline in a manner fully consistent with the rules governing the 700 MHz Band licenses and the Commission's competitive bidding process. In particular, to comply with the statutory deadline, we will deposit payments made by successful bidders towards their respective winning bids for their licenses - including upfront payments, deposits, and final payments held on deposit pending the completion of licensing - as of the deposit deadline, June 30, 2008, even in instances where the licensing process for those licenses has not yet been completed.

320. We conclude that this will comply with the statute's deadline for depositing "the proceeds" of the auction. In the context of the DTV Act and competitive bidding for licenses for the "recovered analog spectrum," the term "the proceeds" consists of payments by successful bidders toward their winning bids for licenses made prior to the deposit deadline. For several reasons, we find that the statute's intended meaning of proceeds is not limited to the final net revenues that the Commission will realize at the completion of the auction and licensing of all relevant licenses. As an initial matter, there can be no guarantee that applicants will place winning bids on any and all the licenses the Commission

---

[712] *See* 47 C.F.R. § 1.2105(c)(1).

[713] 47 U.S.C. § 309(j)(15)(C)(v). The statute's reference to "the proceeds of such auction" refers to the statute's provision for bidding on licenses for the recovered analog spectrum that must commence not later than January 28, 2008. Licenses may be offered by January 28, 2008, and remain unassigned for a variety of reasons. *See* 47 C.F.R. § 1.2104 (c) (reserve prices), (d) (minimum opening bids), (g)(i) (withdrawals prior to close of auction), and (g)(ii) (default or disqualification after close of auction). In such circumstances, the deadline for commencement of bidding on licenses for the relevant spectrum will not preclude the Commission from offering the same or other licenses for the spectrum in a later auction.

[714] 47 U.S.C. § 309(j)(8)(E)(ii).

offers.[715] In addition, with respect to licenses that are the subject of winning bids, we note the period of time between the required commencement of bidding and the deposit deadline in the statute is well short of the time it can take to complete licensing under long-established Commission procedures. The Communications Act and/or the Commission's rules provide parties with prescribed periods of time following an auction to file license applications, petitions to deny, and responses.[716] Similarly, under Commission rules, parties seeking post-auction tribal land bidding credits are afforded a defined period of time – namely, up to 180 days after the filing of a winning bidder's long form application after the close of the auction - in which to negotiate with tribes on the land to be served.[717] Furthermore, the statute's express requirement that the amounts deposited by the deadline include deposits and upfront payments[718] from successful bidders clearly indicates that the statute contemplates deposits being made before the completion of licensing, at which time the successful bidders' deposits and upfront payments are merged into final payments and net auction revenues.[719]

321. We therefore find that the statute requires the deposit of payments made by successful bidders towards their respective winning bids for licenses for recovered analog spectrum as of the June 30, 2008, deposit deadline, even if that date occurs before conclusion of the licensing process. Because our rules provide for the collection of all the required payments from winning bidders before completing the licensing process, [720] the June 30, 2008, statutory deadline for depositing auction proceeds does not conflict with or otherwise affect any of our regulatory provisions that might extend final licensing beyond June 30, 2008.

B. 700 MHz Public Safety Spectrum

322. In this section, we adopt a regulatory framework for the 700 MHz Public Safety Band to facilitate the establishment of a nationwide, interoperable broadband communications network for the benefit of state and local public safety users. In accordance with our decision relating to the Guard Band spectrum, and the corresponding shift by 1 megahertz downward of the 700 MHz Public Safety Band, we designate the lower half of the 700 MHz Public Safety Band (763-768/793-798 MHz) for broadband communications. We also consolidate existing narrowband allocations to the upper half of the 700 MHz Public Safety block (769-775/799-805 MHz). To effectuate the consolidation of the narrowband channels, we require the Upper 700 MHz D Block licensee to pay the costs of relocating narrowband radios, require every 700 MHz public safety licensee to certify to the Commission specific information regarding their operating narrowband handsets and base stations or forfeit reimbursement for associated relocation costs, and establish a deadline for completion of the narrowband transition of no later than the DTV transition date. In order to minimize interference between broadband and narrowband operations, we adopt a 1-megahertz guard band (768-769/798-799 MHz) between the public safety broadband and narrowband segments. 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. Finally, we establish a single nationwide license (hereafter, the "Public Safety Broadband License") for the 700 MHz public safety broadband spectrum. We will assign this to a single licensee, the Public Safety Broadband Licensee, and we specify the criteria, selection process, and responsibilities for this licensee. In establishing this broadband license, and in assigning the license to the Public Safety Broadband Licensee, we also are providing the necessary ingredients for enabling the 700 MHz Public/Private Partnership with the commercial Upper 700 MHz Band D Block licensee, as discussed in more detail elsewhere in this Second Report and Order.

---

[715] *See, e.g.*, Auction of Advanced Wireless Services Licenses Closes, DA 06-1882, *Public Notice*, 21 FCC Rcd 10521 (2006) (35 licenses remained FCC-held following auction).

[716] *See* 47 C.F.R. §§ 1.2107, 1.2108.

[717] *See* 47 C.F.R. § 1.2110(g).

[718] 47 U.S.C. § 309(j)(8)(E)(ii).

[719] *See* 47 C.F.R. § 1.2106(d) (upfront payments to be applied to down payments).

[720] *See* 47 C.F.R. § 1.2109 (enabling the Commission to set payment deadline prior to final license determinations).

1. Band Plan

323. In the *700 MHz Further Notice*, we tentatively concluded to (1) redesignate a portion of the public safety spectrum in the 700 MHz Band from wideband use to broadband use consistent with a nationwide interoperability standard; (2) prohibit wideband operations on a going forward basis within the newly designated broadband spectrum; (3) consolidate the existing narrowband allocations to the upper half of the 700 MHz Public Safety Band (770-776/800-806 MHz), and locate broadband communications in the lower half of this band (764-769/794-799 MHz); and (4) establish a 1-megahertz internal guard band between the narrowband and broadband allocations (669-770/799-800 MHz) to prevent interference.[721] Further, we sought comment on whether to allow the use of this newly created internal guard band along the Canadian border, based on our tentative conclusion not to adopt the BOP which, like the band plan that we adopt today, included a downward shift of 1 megahertz of the 700 MHz Public Safety Band.[722] These tentative conclusions and proposals were intended to facilitate the establishment of a nationwide, interoperable broadband communications network for the benefit of public safety. We discuss our decisions on these issues below.

a. Broadband Segment

324. Background. The majority of commenters support our tentative conclusion in the *700 MHz Further Notice* to modify the current band plan for the 700 MHz Public Safety Band to provide for broadband operations in the lower portion of the band and consolidated narrowband operations at the top of the band.[723] Some commenters supporting band modification in this manner qualify their support. For example, APCO states that it supports the proposed band reconfiguration provided the plan addresses (i) a mechanism to reimburse those public safety licensees that must modify their 700 MHz Band radios that have already been deployed on 700 MHz channels and (ii) the Canadian Border Issue.[724] A few commenters oppose modifying the band. Region 16 (Kansas) does not support the Commission's proposal because its imposition of a nationwide network favors "federal mandates" over local and regional decisions.[725] Similarly, Region 33 (Ohio) argues that the Commission's proposal would eliminate the option to deploy cost effective wideband systems or dedicated local agency broadband systems.[726]

325. Discussion. We conclude that revision of the band plan for the 700 MHz Public Safety Band to accommodate broadband communications is in the public interest. The communications needs of public safety have evolved in recent years, and the record in this proceeding affirms our expectation that wireless broadband services will play an essential role in the ability of public safety entities, especially

---

[721] *700 MHz Further Notice*, 22 FCC Rcd at 8154 ¶ 250.

[722] *Id.* at 8157 ¶ 259, 8157-57 ¶¶ 260-61. The *700 MHz Further Notice* explained that while the Canadian government agreed to clear broadcasters from channels 63 and 68, there was no such agreement in place for channels 64 and 69. As a result, by consolidating the narrowband channels onto channels 64 and 69, operations in these channels would be subject to interference from Canadian broadcast operations. (This matter of potential interference that may be caused to public safety narrowband operations at the border will be referred hereafter as the "Canadian Border Issue.") The Canadian government recently announced that it has now established a date certain, August 30, 2011, by which it will complete the DTV transition for all broadcasters, including channels 64 and 69. Broadcasting Public Notice CRTC 2007-53 (May 17, 2007), available at http://www.crtc.gc.ca/archive/ENG/Notices/2007/pb2007-53.htm. Nevertheless, the Canadian Border Issue will persist for more than two years following the U.S. DTV transition date.

[723] *See, e.g.*, Alcatel-Lucent *700 MHz Further Notice* Comments at ii and 3; AT&T *700 MHz Further Notice* Comments at 14; Frontline *700 MHz Further Notice* Comments at 51; Motorola *700 MHz Further Notice* Comments at 7; TIA *700 MHz Further Notice* Comments at 2; WCA *700 MHz Further Notice* Comments at 4.

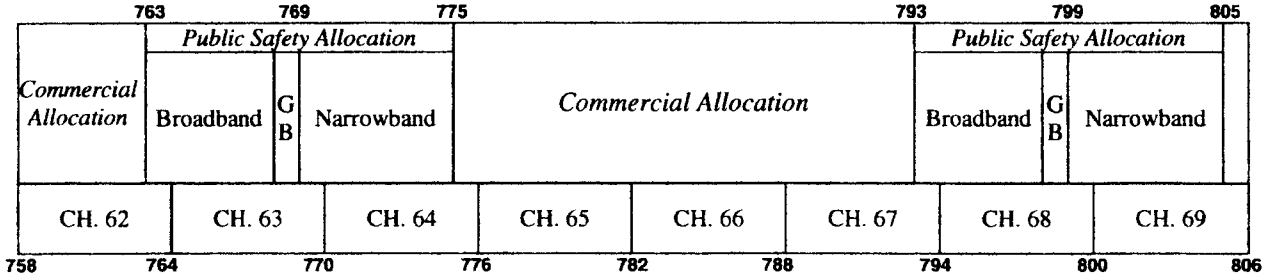
[724] APCO *700 MHz Further Notice* Comments at 7; *see also* NATOA *700 MHz Further Notice* Comments at 5.

[725] Region 16 (Kansas) *700 MHz Further Notice* Comments at 2.

[726] Region 33 (Ohio) *700 MHz Further Notice* Comments at 2; *see also* Motorola *700 MHz Further Notice* Reply Comments at 3-11.

first responders, to fulfill their mission to protect the health, welfare and property of the public.[727] The current band plan for the 700 MHz Public Safety Band does not provide for a broadband communications capability. Accordingly, we adopt the following band plan for the 700 MHz Public Safety Band:

FIGURE 12: REVISED 700 MHZ BAND PLAN FOR PUBLIC SAFETY SERVICES



326. We are designating the lower 5-megahertz paired (10 megahertz total) segment of the 700 MHz Public Safety Band for broadband communications. This 5-megahertz paired designation will allow public safety to implement advanced wireless communications systems. It also will place public safety broadband operations adjacent to spectrum available for commercial broadband operations. We find this facilitates the deployment of a shared broadband network architecture by commercial and public safety entities and is consistent with the public/private partnership framework adopted herein. As discussed elsewhere in detail, such partnership would allow public safety to leverage advanced technologies and infrastructure that can lead to reduced build-out, equipment and operating costs, as well as speedier deployment of advanced public safety communications systems. While some commenters express concerns about the prospect of losing some level of local control should we adopt a nationwide broadband allocation, we believe such concerns are misplaced. As shown elsewhere in this Second Report and Order, local agencies, working through the Public Safety Broadband Licensee, will have substantial opportunity to provide input not only on the design of this network, but also on the particular broadband services they require. In addition, in Section III.C of this Second Report and Order, we provide a means for local agencies to request a waiver to conduct wideband operations, subject to additional conditions and restrictions.

b. Narrowband Segment

(i) Consolidation of Narrowband Channels

327. Background. In the *700 MHz Further Notice*, we tentatively concluded to consolidate the existing narrowband allocations to the upper half of the 700 MHz Public Safety Band. This tentative conclusion to consolidate these narrowband channels received broad support in the record. For example, Alcatel-Lucent states that narrowband consolidation is an essential component to the deployment of broadband in the commercial and public safety portions of the 700 MHz Band.[728]

---

[727] For example, broadband technology would enable public safety agencies to transmit (1) real-time, full motion video from any location to any other location, (2) live video from an emergency scene to a command center, and (3) building diagrams, blueprints, and mug shots to personnel in the field. *See, e.g.*, Bechtel June 14, 2007 *Ex Parte* in PS Docket No. 06-229.

[728] Alcatel-Lucent *700 MHz Further Notice* Comments at 18-19; *see also* ALU *700 MHz Further Notice* Comments at 3-12; AT&T *700 MHz Further Notice* Comments at 14; Ericsson *700 MHz Further Notice* Comments at 10-11; M/A COM *700 MHz Further Notice* Comments at 4; Motorola *700 MHz Further Notice* Comments at 7; NENA *700 MHz Further Notice* Comments at 2; Northrop Grumman *700 MHz Further Notice* Comments at 2-3; Qualcomm *700 MHz Further Notice* Comments at 38; Upper 700 MHz Licensees *700 MHz Further Notice* Comments at 3; Access Spectrum June 14 *Ex Parte* in WT Docket Nos. 96-86, 06-150 and 06-169, and PS Docket No. 06-229.

328. In an *ex parte* letter dated June 25, 2007, NPSTC reiterates its support for consolidating the narrowband channels, and also proposes a plan by which the narrowband consolidation would take place.[729] This plan is premised on the assumption that Access Spectrum/Pegasus would be responsible for paying the costs of relocation, and proposes that retuning be completed by the DTV transition date. The plan also would have completed, by July 31, 2008, the following: reprogramming of the Computer Assisted Pre-Coordination Resource and Database (CAPRAD), updating statewide and regional frequency plans and public safety licenses, and revising code-plug programming software necessary to retune the radios and systems. NPSTC also envisions that each public safety agency would submit a "Statement of Work" to Access Spectrum/Pegasus by December 31, 2007, listing the number of radios and transmit sites that will be operational by July 31, 2008, and which would be eligible for relocation funding. In an *ex parte* letter dated June 29, 2007, Motorola expressed its support for NPSTC's proposal.[730]

329. Discussion. We adopt our tentative conclusion to consolidate the narrowband segments in order to optimize the band plan for this spectrum. We find that consolidating the narrowband segments will promote the benefits of the 700 MHz Public/Private Partnership by creating a contiguous public safety broadband allocation adjacent to commercial broadband spectrum, and distancing the narrowband segment from the broadband segment to minimize interference potential. Further, consolidating the narrowband segments in this manner will maximize spectrum efficiency, thereby reducing the need for internal guard bands between narrowband and broadband operations from two separate guard bands to only one internal guard band.[731] Accordingly, we consolidate the public safety narrowband operations in the upper paired 6-megahertz blocks (twelve megahertz total) of the 700 MHz Public Safety Band.[732]

(ii) Timing of Narrowband Consolidation

330. Background. In the *700 MHz Further Notice*, we posed a number of questions in order to address how best to migrate existing narrowband operations on channels 63 and 68 to channels 64 and 69, with minimum disruption to incumbent operators.[733] As an initial matter, we sought comment on the appropriate timing of relocating narrowband operations, in view of the February 17, 2009 DTV transition deadline.[734]

331. Motorola states that the narrowband blocks were split originally so that some narrowband channels would overlap both TV channels 63/68 and 64/69, providing greater likelihood that at least a portion of the channels would be usable in additional areas of the country prior to TV clearing in early 2009. Motorola argues that maintaining the bifurcated narrowband blocks beyond that date has no benefit for public safety.[735] Alcatel-Lucent believes that there is sufficient time between the end of the auction

---

[729] Letter from Vincent R. Stile, Chair, NPSTC, to Kevin Martin, Chairman, FCC, WT Docket Nos. 96-86, 06-150, 06-169, and PS Docket No. 06-229, filed June 25, 2007 (*NPSTC June 2007 Ex Parte*).

[730] Letter from Steve B. Sharkey, Director, Spectrum and Standards Strategy, Motorola, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 96-86, 06-150, 06-169, and PS Docket No. 06-229, filed June 29, 2007 (*Motorola June 2007 Ex Parte*).

[731] *See, e.g.*, AT&T *700 MHz Further Notice* Comments at 14; Alcatel-Lucent *700 MHz Further Notice* Comments at 18; M/A-COM *700 MHz Further Notice* Comments at 4; Motorola *700 MHz Further Notice* Comments at 7; TIA *700 MHz Further Notice* Comments at 3-4.

[732] As discussed elsewhere, we also are shifting downward, by 1 megahertz, the entire 700 MHz public safety band.

[733] *700 MHz Further Notice*, 22 FCC Rcd at 8158-59 ¶¶ 262, 263. This did not take into account the fact that, as a result of the band plan we adopt today, the upper 1 megahertz of narrowband operations in channels 64 and 69 also would need to be relocated as a result of the 1 megahertz downward shift of the 700 MHz public safety band.

[734] *Id.* at 8159 ¶ 263.

[735] Motorola *700 MHz Further Notice* Comments at 7 n.3. Motorola states that the Commission should define a timeline for the consolidation of the narrowband blocks, estimating that it will take twelve months from establishing the new band plan to develop the revised code plug programming software and conduct the necessary testing to ensure that the radios can be reprogrammed. *Id.* at 12.

and when the spectrum becomes available in February 2009 to enable regional and local public safety agencies to deploy broadband technologies right away.[736]

332. Discussion. We conclude that in order to maximize the benefits of the 700 MHz Public/Private Partnership to deploy a nationwide, interoperable broadband communications network, narrowband operations presently in channels 63 and 68 (and the upper 1 megahertz of channels 64 and 69) must be cleared no later than the DTV transition date.[737] It is important that the commercial Upper 700 MHz Band D Block licensee and the Public Safety Broadband Licensee not be constrained by the presence of narrowband operations in the public safety broadband allocation with regard to implementing a build-out plan for the nationwide broadband network. Furthermore, we find that focusing the resources necessary to implement the relocation of narrowband operations during the time leading up to when the TV channels are fully cleared will enable the public safety community, as of the February 17, 2009 deadline, to devote its full attention to the important matter of deploying broadband communications capabilities with a nationwide level of interoperability.

(iii) Funding Issues

333. Background. As we recognized in the *700 MHz Further Notice*, fundamental to the accomplishment of relocating narrowband operations to the consolidated narrowband channels is a determination of the costs of the relocation and how (or by whom) the costs will be paid.[738] While we believed that the number of incumbents that would be impacted would be relatively small, we asked for estimates of the true costs associated with relocation that were as accurate as possible, as well as up-to-date information regarding how many narrowband radios are currently deployed and how many are actively being used.[739] Unfortunately, we received no information on the number of narrowband radios deployed and in use.[740] Further, only one commenter, Motorola, offered an estimate of the costs associated with reprogramming the impacted narrowband systems. Specifically, Motorola estimates that the costs associated with reprogramming installed Motorola 700 MHz equipment, including mobiles, portables and base stations that are in operation presently or targeted to be in operation by the time band reconfiguration would commence, approximately one year after the Commission finalizes a new band plan for the 700 MHz Public Safety Band, to be approximately $10 million.[741] Motorola subsequently provided additional information, in an *ex parte* letter, regarding the estimated costs for completing the reconfiguration. Specifically, Motorola states that it used as a basis for its estimate an average cost of $100 to reprogram each mobile and portable radio, and $3,000 to make necessary changes at each base transmitter site.[742]

334. We also sought comment on how best to pay for the costs of consolidating the narrowband channels. We asked whether, should we reject our tentative conclusion to impose these costs on the commercial licensee that would be part of a public/private partnership, public safety should pay for its own relocation costs, whether it might be possible to use a portion of the $1 billion Public Safety Interoperable Communications Grant Program or funding from existing grant programs, or whether we

---

[736] Alcatel-Lucent *700 MHz Further Notice* Reply Comments at 8.

[737] In order to accomplish relocations in areas encumbered by existing TV operations that would continue until the DTV deadline, some relocations could be planned in advance, but not implemented, until the DTV transition date.

[738] *700 MHz Further Notice*, 22 FCC Rcd at 8159 ¶ 264.

[739] *Id.*

[740] As we explained, our licensing database shows that there are 38 narrowband licenses on channels 63 and 68 that would be subject to relocation. But, 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. State licensees are not required to file individual applications to operate on narrowband channels. Thus, we have no way of estimating how many narrowband systems, and therefore numbers of radios in use, stem from operations being conducted pursuant to the State Licenses.

[741] *See* Motorola *700 MHz Further Notice* Comments at 11.

[742] Motorola June 2007 *Ex Parte* at 2-3.

should require the licensee of the adjacent commercial broadband segment[743] or Guard Band B Block licensees to pay such costs. Alternatively, we asked whether the nationwide public safety broadband licensee should be assigned responsibility for funding the reconfiguration.[744]

335. A number of public safety groups oppose having public safety pay its own relocation costs or attempting to use the $1 billion Public Safety Interoperable Communications Grant Program.[745] On the other hand, there was extensive support in the record for imposing the payment obligation upon either the licensee of the adjacent commercial broadband segment or the Guard Band B Block licensees.[746]

336. Discussion. As we state elsewhere, we require the Upper 700 MHz Band D Block licensee to pay the costs associated with relocating public safety narrowband operations to the consolidated channels, in recognition of the significant benefits that will accrue to the D Block licensee.[747] We also assign responsibility to the Public Safety Broadband Licensee to administer the relocation process consistent with the requirements and deadlines set forth herein. To facilitate such relocation, we seek to identify the actual numbers of radios and base stations that the D Block licensee would be responsible for paying the costs of relocating. To that end, we require every 700 MHz Band public safety licensee, whether holding individual narrowband authorizations or operating pursuant to a State License, to provide the following information: (1) the total number of narrowband mobile and portable handsets in operation in channels 63 and 68, and the upper 1 megahertz of channels 64 and 69, (2) the total number of narrowband base stations serving these handsets in operation, (3) contact information for each identified set of handsets and base stations, as appropriate, (4) the areas of operation of the mobile and portable units (such as defined by the jurisdictional boundaries of the relevant public safety departments), and (5) the location, in latitude and longitude, of the base stations, all as of 30 days after the adoption date of this Second Report and Order. We require that all of this information be accurate as of 30 days after the adoption date to account for pre-programmed narrowband radios that public safety agencies may have already taken delivery as of the adoption date of this order and intend to immediately place into operation.

337. This information must be filed with the Commission on the effective date of this Second Report and Order and must include a certification, signed by an authorized party, stating that the information provided therein is true, complete, correct, and made in good faith. The Public Safety and Homeland Security Bureau will issue a public notice in advance of the effective date announcing the deadline for this certification requirement. Because obtaining this data is so integral to the success of the relocation process, we strongly caution that public safety entities failing to timely and properly file these certifications will forfeit all rights to be reimbursed for associated relocation costs. We will require the funding of the costs of relocation of narrowband operation only for handsets and base stations that are actually in operation as part of licensed narrowband operations in channels 63 and 68, and the upper 1 megahertz of channels 64 and 69, as of 30 days following the adoption date of this Second Report and Order.

338. In order to be clear regarding the costs that would be entitled to reimbursement, the obligation of the D Block licensee to fund the costs of relocation will be limited to the minimum costs directly associated with modifications necessary to implement the relocation of base stations, mobiles and portables, and not for any unrelated improvements. We do not impose a funding obligation to cover costs

---

[743] In the *700 MHz Further Notice*, we referred to "the nationwide licensee of the commercial Upper 700 MHz spectrum block proposed by Frontline." *700 MHz Further Notice*, 22 FCC Rcd at 8159 ¶ 264. For present purposes, this reference would translate to the D Block licensee.

[744] *700 MHz Further Notice*, 22 FCC Rcd at 8160 ¶ 265. As noted elsewhere, in this Second Report and Order, we have designated this entity the Public Safety Broadband Licensee.

[745] *See, e.g.*, APCO *700 MHz Further Notice* Comments at 9; NENA *700 MHz Further Notice* Comments at 3; NPSTC *700 MHz Further Notice* Comments at 26.

[746] *See* Missouri Highway Patrol *700 MHz Further Notice* Reply Comments at 3; Motorola *700 MHz Further Notice* Comments at 8; *see also* Northrop Grumman *700 MHz Further Notice* Reply Comments at 5-6.

[747] *See supra* ¶¶ 120-121.

associated with any modifications that may be necessary to the CAPRAD system and other programs used by Regional Planning Committees (RPCs) to assign channels, or to any costs associated with amendments to regional plans or narrowband licenses.

339. As an additional measure to clearly define and contain the costs that would be entitled to reimbursement, we prohibit authorization, whether pursuant to individual license or State License, of any new narrowband operations in channels 63 and 68, or in the upper 1 megahertz of channels 64 and 69, as of 30 days following the adoption date of this Second Report and Order. We caution that any equipment deployed in these frequencies subsequent to 30 days following the date of adoption of this Second Report and Order will be ineligible for relocation funding. We take these steps in prohibiting new narrowband operations outside of the consolidated narrowband blocks to ensure that the relocation proceeds in an orderly manner and without complications stemming from additional operations being deployed in spectrum being reallocated. To be clear, however, public safety entities may continue to place into operation narrowband equipment in the consolidated narrowband blocks 769-775 and 799-805 MHz.

340. As stated herein, the winning bidder of the D Block license is required to commence negotiation of the NSA on the date it files its long form application or the date on which the Commission grants the public safety broadband license to the Public Safety Broadband Licensee, whichever is later (the "NSA Negotiation Commencement Date"). Further, elsewhere we require, as a pre-condition of grant of the D Block license, that the winning bidder for this license and the Public Safety Broadband Licensee complete negotiations within six months, and file a copy of the NSA that has been approved by the Commission and executed by the parties. To implement the narrowband relocation process, we require the winning bidder for the D Block license and the Public Safety Broadband Licensee jointly to submit for Commission approval a relocation plan within 30 days following the NSA Negotiation Commencement Date. We delegate authority to the Chief, Public Safety and Homeland Security Bureau, to review and approve this plan. This plan must address the process and schedule for accomplishing the narrowband relocation, including identification of equipment vendors or other consultants that would perform the necessary technical changes to handsets and base stations, and a detailed schedule for completion of the relocation process for every radio and base station identified in the certifications we require above. Furthermore, this plan must specify the total costs to be incurred for the complete relocation process.

341. As an additional means to ensure the integrity of the relocation process, we also cap the total amount that the D Block licensee must pay to cover relocation costs. Motorola's estimate is the only one in the record, and is not disputed. Motorola's $10 million estimate is based upon the anticipated numbers of portables, mobiles, and transmit sites in operation by July 2008. As we state above, however, we will limit the total relocation amount to those radios in operation as of 30 days after the adoption date of this Second Report and Order. Using the numbers of portables, mobiles, and transmit sites reported by Motorola as in operation as of the date of its June 2007 *ex parte* filing, the total cost would equal $5.77 million. While the relocation costs when limited to radios in operation as of 30 days after the adoption date of this order could be closer to $6 million, we conclude it is reasonable to set a cap of $10 million. We reach this conclusion because even though Motorola's estimate is the only one before us, it is a generous estimate in that, as the major provider of public safety 700 MHz equipment, Motorola asserts that this amount would be sufficient to cover the relocation cost of all narrowband operations through July 2008. Since we only authorize relocation reimbursement for operations as of 30 days after the adoption date of this Second Report and Order, we find that it is reasonable to expect Motorola's estimate to be more than sufficient to cover these costs. Further, to the extent that a $10 million cap exceeds the estimate of $6 million, we find that the additional amount is not unreasonable in light of the uncertainty reflected by Motorola's admission that its estimate is "necessarily an estimate based on the best information available" and that "information available about the extent of deployed equipment and the costs of retuning is imperfect and subject to change."[748] Moreover, we find that in determining a cap, we must consider the costs associated with retuning radios manufactured by other vendors, and provide a layer of protection to the public safety community to ensure that eligible relocation costs are fully funded.

[748] Motorola July 2007 *Ex Parte* at 3.

342. We emphasize that by establishing this $10 million cap, we do not expect the actual costs to reach this amount, especially because we limit reimbursement to equipment operating as of 30 days after the adoption date of this Second Report and Order. Further, we do not preclude the strong possibility that the actual costs will be lower, perhaps substantially, when based on the specific amounts for identified costs, on a per handset and per base station basis, as may be identified by the winning bidder of the D Block license in consultation with the Public Safety Broadband Licensee and equipment vendors. If the winning bidder of the D Block license and the Public Safety Broadband Licensee reach agreement on an amount less than $10 million, they shall report this amount in the relocation plan they submit, with a certification attested to by the winning bidder of the D Block license, the Public Safety Broadband Licensee, and the relevant equipment vendors, verifying that all parties will be bound by the costs so identified. We recognize that the Public Safety Broadband Licensee may incur administrative costs in carrying out its responsibilities to administer the relocation process. We find it would be premature, however, in advance of having appointed a Public Safety Broadband Licensee, to consider requiring the D Block licensee to fund such administrative costs. Further, we have no basis in the record to consider including administrative costs in the funding obligation of the D Block licensee. While we do not foreclose the possibility that the Public Safety Broadband Licensee, once appointed, may be in a position to justify a specific funding request, we emphasize that the $10 million cap we establish will remain in place and is not subject to upward adjustment for any purpose.

343. Once the total costs are identified, whether at $10 million or some lesser amount, such amount will be capped upon approval of the relocation plan by the Chief of the Public Safety and Homeland Security Bureau. By "capped" we mean that all affected parties will be bound by that amount to accomplish the complete relocation of all narrowband operations. To be clear, we will not entertain any requests to exceed the capped costs. Furthermore, as an additional precondition to grant of the D Block license, we will require, no later than the date on which the executed NSA is submitted to the Commission, that the D Block auction winner deposit the capped amount as approved by the Chief of the Public Safety and Homeland Security Bureau into a trust account established by the Public Safety Broadband Licensee, to finance the narrowband relocation costs. Thus, the winning bidder of the D Block license and the Public Safety Broadband Licensee must take great care in deciding upon the costs necessary for accomplishing the narrowband relocation. The trust account established by the Public Safety Broadband Licensee must be for the benefit of public safety licensees being relocated, and have the Public Safety Broadband Licensee acting as trustee of such account. The Public Safety Broadband Licensee may not draw on this account until the D Block license is granted to the D Block auction winner, and then may use the funds solely for relocating eligible narrowband operations consistent with the requirements and limitations set forth herein. The Public Safety Broadband Licensee will then be responsible for implementing the relocation plan, including administering payment of relocation funds to equipment vendors, and ensuring that all affected licensees are relocated in accordance with the relocation schedule contained in the relocation plan as approved by the Chief of the Public Safety and Homeland Security Bureau.

344. The process we establish has the Public Safety Broadband Licensee disbursing the relocation funds, as opposed to the D Block licensee dealing directly with and paying each relocating narrowband licensee. We find it appropriate to have the Public Safety Broadband Licensee administer payment of relocation funds for a number of reasons. First, the D Block licensee and the Public Safety Broadband Licensee already would have reached agreement on a relocation plan, and disbursement of the funds will proceed according to this plan. In effect, as the winning bidder, the D Block licensee will have had substantial involvement in designing the relocation plan, including the disbursement of funds. Second, we find that the Public Safety Broadband Licensee is in the best position, based on the criteria we specify herein for its selection, to act in the best interests of the public safety community impacted by the narrowband consolidation. Specifically, as we require elsewhere, no commercial interest may be held in the Public Safety Broadband Licensee, this licensee must be a non-profit organization, and the licensee must be broadly representative of the public safety user community. Accordingly, in carrying out its responsibilities, the Public Safety Broadband Licensee would not be unduly influenced by financial or commercial pressures, yet would have extensive experience with public safety radio operations. Third, we require as part of the negotiation of the relocation plan that the winning bidder of the D Block license and the Public Safety Broadband Licensee reach agreement on the total costs of the entire relocation. As

all parties will be bound by this amount, which we will cap, the Public Safety Broadband Licensee must carefully disburse the funds according to the relocation plan to ensure that the entire process is fully funded. Finally, creating a trust relationship further ensures that the Public Safety Broadband Licensee will act in accordance with the relocation plan and the best interests of the relocating incumbents, due to the fiduciary responsibility it would hold as trustee.

c. Regional Planning Committee Plans

345. Background. In the *700 MHz Further Notice*, we observed that RPCs had raised concerns that consolidating the narrowband channels would disrupt planning, but we noted that the costs and inconveniences of consolidating the narrowband channels are minor compared to the relative potential for accommodating future technologies.[749] Several commenters described projects that have been approved or are underway. Region 43 (Washington) states that it has engaged in a years long process and that within its Central Puget Sound region, there are approved projects in the process of implementation.[750] Similarly, Region 16 (Kansas) states that it has invested considerable time in developing its state plan and the Commission's proposed changes would require revision and resubmission of the plan to the Commission, with resultant delay in build-out of systems.[751] Region 33 (Ohio) states that Ohio has created and funded a band plan and is awaiting review by adjacent regions.[752]

346. Discussion. We recognize that our decisions to prohibit wideband operations (outside of the waiver process described elsewhere in this Second Report and Order) and to consolidate the narrowband channels will impact existing and pending RPC plans. Nevertheless, as a result, RPC plans already approved or on file with the Commission will require amendment. We find that the substantial benefits resulting from accommodating broadband communications and consolidating the narrowband channels outweigh the near-term concerns of RPCs. Indeed, the fact that the narrowband consolidation will optimize the 700 MHz public safety band plan as a whole, and promote the deployment of new technologies and broadband services, will be to the advantage of the very RPCs whose current plans will be impacted. Accordingly, we require all RPCs with approved plans or plans on file to submit amended plans consistent with the decisions herein within 30 days of the effective date of this Second Report and Order.

d. Internal Guard Band

347. Background. In the *700 MHz Further Notice*, we tentatively concluded to separate the broadband segment and the narrowband segment with a 1-megahertz internal guard band (2 megahertz paired).[753] The purpose of the guard band is to provide a buffer to minimize interference between broadband and narrowband operations. Many commenters support establishing a one-megahertz guard band.[754] Some recommend that we allow the guard band to be used on a coordinated basis.[755] Others, like WCA, suggest that the size of the guard band be left to the discretion of the public safety broadband

[749] *700 MHz Further Notice*, 22 FCC Rcd at 8158 ¶ 262.

[750] Region 43 (Washington) *700 MHz Further Notice* Comments at 3; Region 43 (Washington) *700 MHz Further Notice* Reply Comments at 2.

[751] Region 16 (Kansas) *700 MHz Further Notice* Comments at 3.

[752] Region 33 (Ohio) *700 MHz Further Notice* Comments at 1.

[753] *See 700 MHz Further Notice*, 22 FCC Rcd at 8157 ¶ 257.

[754] *See, e.g.*, Ericsson *700 MHz Further Notice* Comments at 21; M/A-COM *700 MHz Further Notice* Comments at 5; NPSTC *700 MHz Further Notice* Comments at 21; Region 43 (Washington) *700 MHz Further Notice* Comments at 7; Qualcomm *700 MHz Further Notice* Comments at 15; TIA *700 MHz Further Notice* Comments at 3; Verizon Wireless *700 MHz Further Notice* Comments at 16; Alcatel-Lucent *700 MHz Further Notice* Reply Comments at 1.

[755] M/A-COM *700 MHz Further Notice* Comments at 2-3; Missouri State Highway Patrol *700 MHz Further Notice* Comments at 9.

licensee since technology evolves over time and the guard band may be able to be reduced.[756]

348. Discussion. We adopt our tentative conclusion and agree with commenters that an internal guard band is needed between narrowband and broadband operations to minimize interference potential. Accordingly, we adopt a one-megahertz paired guard band (768-769/798-799 MHz) between the broadband and narrowband segments. At this time, we decline to adopt proposals that would permit coordinated use or leave the size of the internal guard band to the discretion of the Public Safety Broadband Licensee. We believe that certainty in the band plan is important particularly at the initial stages of the design and implementation of the public safety broadband network.[757] We include this guard band as part of the public safety broadband license, and require the Public Safety Broadband Licensee to use this guard band as a buffer between the surrounding public safety broadband and narrowband operations.

e. Border Issues

349. Background. In the *700 MHz Further Notice*, we noted that one virtue of the BOP and the Access Spectrum/Pegasus alternative proposal is its proposed shift in the spectral location of the block dedicated to public safety, which would result in an overlap of 1 megahertz of the 6-megahertz paired narrowband channels with TV channels 63 and 68, which Canada had already agreed to clear.[758] Because we tentatively concluded that we could not adopt the BOP, we sought comment on whether to temporarily allow, in border areas, narrowband voice communications within the public safety internal guard band, to account for the fact that, at the time, Canada had not yet set a DTV transition date for channels 64 and 69.[759] As discussed elsewhere, the band plan we adopt incorporates a shift of the 700 MHz Public Safety Band down by 1 megahertz.

350. Since we released the *700 MHz Further Notice*, Canada announced that, as of August 31, 2011, it will have completed its DTV transition, including on channels 64 and 69.[760] Thus, while Canada has now established a firm DTV transition date, it will continue to trail the U.S. DTV transition by two and a half years. Further, there remains support in the record to obtain the benefits of the downward shift for purposes of narrowband operations that would be impacted by Canadian TV operations.[761] Alcatel-Lucent states, however, that a one-megahertz shift will present interference issues as public safety broadband operations would be shifted into existing TV channels 62 and 67, which have Canadian television station operations.[762]

---

[756] WCA *700 MHz Further Notice* Comments at 4-5; *see also* Alcatel-Lucent *700 MHz Further Notice* Comments at iii.

[757] We do not foreclose the possibility of permitting the Public Safety Broadband Licensee to request that the Commission revisit the creation of the one megahertz guard band, if technology advances such that the guard band could be reduced without increasing the potential for interference.

[758] *700 MHz Further Notice*, 22 FCC Rcd at 8158 ¶ 260.

[759] *Id.* at 8158 ¶ 261. A few commenters expressed support for this use of the guard band. *See, e.g.*, Alcatel-Lucent *700 MHz Further Notice* Comments at 23-24; Frontline *700 MHz Further Notice* Comments at 55.

[760] Broadcasting Public Notice CRTC 2007-53 (May 17, 2007), found at <http://www.crtc.gc.ca/archive/ENG/Notices/2007/pb2007-53.htm>.

[761] *See, e.g.*, NPSTC *700 MHz Further Notice* Comments at 25 (affirming "the virtues of the 'permanent shift' plan under Proposals 3, 4 and 5"); APCO *700 MHz Further Notice* Comments at 9-10 ("Proposal 3 in the *FNPRM* . . . offers the best approach for addressing this issue, as it allows border areas access to narrowband channels."); M/A Com *700 MHz Further Notice* Comments at 2-4 (supporting 1 megahertz downshift to accommodate operations in border areas); Upper 700 MHz Licensees *700 MHz Further Notice* Comments at 8-10 (arguing that the only way to ensure nationwide interoperability for public safety's mission-critical narrowband voice communications is adoption of a band plan that includes permanent, nationwide narrowband interoperability through shifting the public safety allocation down one MHz); California *700 MHz Further Notice* Comments at 3 (supporting Proposals 3, 4, or 5).

[762] Alcatel-Lucent *700 MHz Further Notice* Comments at 22 (presenting a map showing the presence of Canadian TV stations broadcasting on TV channels 62 and 67).

351. Discussion. We find that our revised band plan sufficiently addresses these issues arising at the Canadian border. By adopting a band plan that implements a shift of the 700 MHz Public Safety Band 1 megahertz lower in the 700 MHz Band, we find that narrowband operations can occur in the uppermost one megahertz of channels 63 and 68 and thus outside of channels 64 and 69 where there will be continued Canadian analog TV operations.[763] In this manner, narrowband operations can be undertaken at 769-770 and 799-800 MHz at the Canadian border without interference concerns. Also, the downward shift makes it unnecessary for us to authorize use of the public safety internal guard band to accommodate narrowband operations at the border. With respect to Alcatel-Lucent's concerns regarding the effect of Canadian broadcasters operating on TV channels 62 and 67, we believe the effect on public safety broadband operations will be very limited. As Alcatel-Lucent points out, the border area is not densely populated, and it is unlikely that maximum use of the broadband segment would be expected prior to the discontinuation of Canadian broadcasts in that spectrum.[764] On balance, we find that the benefits of the one-megahertz downward shift outweigh the limited impact on broadband operations in the border area.

352. We do not, at this time, adopt any measures specific to the potential for continued TV operations in Mexico. The comments filed on this issue do not suggest there is a pressing need to take any particular actions at the present time concerning narrowband operations in the area of the Mexican border.[765] In the meantime, the United States and Mexico continue ongoing discussions concerning Mexican broadcast operations at the border. Accordingly, we will take future action, if and when appropriate, to address matters concerning public safety narrowband operations near the Mexican border.

f. Technical Parameters

353. In the *700 MHz Further Notice*, we sought 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 sought comment on whether the technical restrictions adopted for the 700 MHz Commercial Services Band with respect to interference protection, if applied to public safety broadband spectrum, will protect adjacent band operations.[766] In response, several parties filed comments addressing technical issues. Below we examine each technical issue separately.

(i) Broadband Power Limits

354. Background. Motorola states that the Commission should adopt the same PSD limits for public safety broadband as we adopted in the *700 MHz Report and Order* for the commercial, non-Guard Band licenses in the 700 MHz Band.[767] It contends, however, that the Commission should adopt stricter power flux density (PFD) limits. It argues that the PFD limits adopted for commercial services are insufficient to protect adjacent public safety narrowband operations. Motorola recommends that the

---

[763] *See* M/A Com *700 MHz Further Notice* Comments at 3-4; Upper 700 MHz Licensees *700 MHz Further Notice* Comments at 8-10.

[764] Alcatel-Lucent *700 MHz Further Notice* Comments at 24.

[765] Alcatel-Lucent states that along the U.S.-Mexico border, there are a number of primary assignments that affect deployment of broadband systems, but the most potentially troubling ramifications from border operations are along the Canadian boundary. Alcatel-Lucent *700 MHz Further Notice* Comments at 22 & n.46. The Upper 700 MHz Licensees state that public safety agencies located in regions along the border with Mexico would not confront impairment because there are no Mexican television broadcast operations in TV Channels 62 and 67 along the border. Upper 700 MHz Licensees *700 MHz Further Notice* Reply Comments at 12 & n.3. Our own analysis confirms that there are no full power TV stations operating in Mexico along the border on TV channels 62 and 67.

[766] *700 MHz Further Notice*, 22 FCC Rcd at 8160 ¶ 267.

[767] Motorola *700 MHz Further Notice* Comments at 26; *see also* California *700 MHz Further Notice* Reply Comments at 7 (stating that it cannot comment on specific levels, but the public safety narrowband must be protected from interference).

Commission adopt a PFD limit of 300 uw/m^2 for operations in the public safety segment.[768] Alcatel-Lucent opposes adopting this PFD limit at this time. It argues that the Commission should wait until a more complete record is available.[769]

355. Discussion. We agree with Motorola that the public interest is served by specifying power limits in terms of PSD limits for 700 MHz public safety broadband operations. This approach to defining power limits will enable higher power signals from wider band technologies. Further, it will better accommodate all technologies (*i.e.*, it is more technologically neutral)[770] and help standardize 700 MHz broadband mobile (end user) equipment across both the commercial and public safety broadband segments in the 700 MHz Band.

356. As suggested by Motorola, we also adopt the same PSD limits specified for the commercial 700 MHz Band for operation in the 700 MHz public safety broadband segment. Accordingly, we will allow 700 MHz public safety broadband base stations employing bandwidths greater than 1 megahertz a maximum of 1kW/MHz ERP (*i.e.*, no more than 1 kW ERP in any one-megahertz segment).[771] Stations operating with bandwidths of less than 1 megahertz will be permitted to operate at a power level up to 1 kW ERP over their bandwidth.[772]

357. For rural area[773] operations, we received no objections to permitting increased power for public safety broadband, as we had done in the *700 MHz Report and Order* with respect to commercial operations.[774] Accordingly, we will permit power levels of up to 2 kW/MHz in rural areas. Also, consistent with our decision in non-rural areas, we will allow base stations located in rural areas operating with bandwidths less than 1 megahertz to operate at power levels up to 2 kW ERP over the licensee's given bandwidth.

358. There was very little in the record concerning the issue of whether we should adopt a PFD limit for public safety broadband. We conclude that the best course of action given the limited record here is to decline to adopt a PFD limit in the public safety broadband segment. We note, however, that should additional facts be presented, we may revisit this issue in the future.

359. As we did for operations in the commercial 700 MHz Band, we specify that power must be measured in "average" rather than "peak" terms.[775] An "average" measurement technique results in a more accurate measure of the interference potential for these technologies. For the purposes of measuring "average power" we make the following determinations. First, the technique shall be made during a period of continuous transmission and be based on a measurement using one-megahertz resolution bandwidth. Second, we shall restrict the peak-to-average (PAR) ratio of the radiated signal to 13 dB. Limiting the PAR to 13 dB strikes a balance between enabling licensees to use modulation schemes with

---

[768] *Id.* at 27-28.

[769] Alcatel-Lucent *700 MHz Further Notice* Reply Comments at 11.

[770] Under this approach, the maximum allowable power levels are defined on a "per megahertz of spectrum bandwidth" basis, rather than on a "per emission" basis. This is helpful because with some technologies, only one emission is transmitted within a licensee's given bandwidth, while other technologies might employ multiple emissions over that same bandwidth. Establishing a power limit on a "per emission" basis could allow licensees employing a technology using multiple emissions to transmit more total energy in their given bandwidth than licensing using a technology with only one emission.

[771] *See 700 MHz Report and Order*, 22 FCC Rcd at 8099 ¶ 92.

[772] For example, a base station transmitting a signal with a bandwidth of 200 kHz could employ a power level of 1 kW ERP over the 200 kHz bandwidth.

[773] For purposes of this Second Report and Order, "rural areas" are those counties in the United States having a population of fewer than 100 people per square mile, based on the most recently available population statistics from the Bureau of Census. *See Rural Report and Order*, 19 FCC Rcd at 19128 ¶ 89; 47 C.F.R. § 27.50(d)(1).

[774] *700 MHz Report and Order*, 22 FCC Rcd at 8099 ¶ 93.

[775] *Id.* at 8103 ¶ 105.

high PARs 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.[776]

(ii) Broadband Emission Limit

360. Background. Alcatel-Lucent proposes that the Commission adopt an out-of-band emission (OOBE) limit of 76+10logP for public safety broadband operations into the 700 MHz public safety narrowband segment.[777] Ericsson argues that the more stringent OOBE limits continue to be necessary to protect public safety narrowband operations.[778]

361. Discussion. The public safety broadband segments (at 763-768 and 793-798 MHz) are bounded on the top by the one-megahertz internal guard bands, followed by the public safety narrowband segments (at 769-775 and 799-805 MHz), and on the bottom by the Upper 700 MHz Band D Block. We adopt the following out-of-band emission (OOBE) limits for public safety broadband transmissions: for base stations, which will transmit in the 763-768 MHz band, an OOBE limit of 76+10logP (dB) in a 6.25 kHz band segment in the 769-775 and 799-805 MHz bands; and for mobile/portable stations, which will transmit in the 793-798 MHz band, an OOBE limit of 65 + 10logP in a 6.25 kHz band segment in the 769-775 and 799-805 MHz bands; We believe these limits will adequately protect public safety narrowband operations while enabling viable broadband operations. Further, these limits provide the same amount of protection previously provided to public safety narrowband operations from commercial 700 MHz transmissions,[779] and received support in the record.[780] We also note that these are the same limits we adopt elsewhere for the Upper 700 MHz Band D Block and C Block licensees with respect to the 700 MHz public safety narrowband segments.

362. Consistent with our decision elsewhere, we will not adopt an OOBE limit for public safety broadband emissions falling outside the bottom part of the band (below 763/793 MHz) with respect to the adjacent D Block spectrum. We reach this conclusion because, under the Public/Private Partnership, the Public Safety Broadband Licensee and the D Block licensee will be authorized on adjacent spectrum and will use the same infrastructure.

(iii) Broadband Interoperability Standard

363. Background. Alcatel-Lucent argues that the Commission should establish a single nationwide interoperability standard in order to facilitate interoperability.[781] Others, such as Northrop Grumman, recommend that the Commission should not establish a broadband standard now. They note that advanced 4G technologies are still in the early phase of market entry. According to Northrop Grumman, establishing a public safety broadband standard would be premature and stifle public safety's present and future access to the marketplace and commercial innovation.[782] It contends that interoperability will develop through the evolution of commercial broadband wireless and network standards, IP-based design of networks with new standardized layers now being used commercially such as IP Multimedia Subsystems (IMS), and the robust adaptability of the latest broadband wireless user equipment, with multi-band function and/or software-defined characteristics, providing imbedded

---

[776] *Id.* at 8104 ¶ 106.

[777] Alcatel-Lucent *700 MHz Further Notice* Comments at 20.

[778] Ericsson *700 MHz Further Notice* Comments at 29-30.

[779] *See* Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, WT Docket No. 99-168, *First Report and Order*, 15 FCC Rcd 476, 518-20 ¶¶ 103-06 (2000).

[780] *See* Alcatel-Lucent *700 MHz Further Notice* Comments at 20; Ericsson *700 MHz Further Notice Comments* at 29-30.

[781] Alcatel-Lucent *700 MHz Further Notice* Comments at 18.

[782] Northrop Grumman *700 MHz Further Notice* Reply Comments at 7-8.

interoperability.[783]

364. Discussion. We find that the development of a nationwide broadband interoperability standard is imperative. Having a common standard will lead to the development of common network and subscriber equipment, and thus enable the economies of scale we envision for the Public Safety Broadband Licensee. Furthermore, once a common standard is adopted, all public safety entities will be required to follow this standard in order to participate in the nationwide broadband network. This, in turn, will permit disparate public safety entities to interoperate with each other, anywhere in the country. Rather than having the Commission select this standard, however, we find that it would be more efficient and appropriate to require the Upper 700 MHz D Block licensee and the Public Safety Broadband Licensee to agree to a broadband standard as part of their negotiation of the NSA. The Commission will have an opportunity to pass on the standard so selected as part of its overall review, and approval, of the NSA.

2. Public Safety Broadband Licensee

365. In light of our nation's current and anticipated public safety and homeland security needs, we proposed a comprehensive plan to promote the rapid deployment of a nationwide, interoperable, broadband public safety network, and thereby improve emergency responsiveness. This plan is based on taking "a centralized and national approach to maximize public safety access to interoperable, broadband spectrum in the 700 MHz Band."[784] Accordingly, we proposed that a single, public safety broadband licensee (Public Safety Broadband Licensee) be assigned the public safety broadband spectrum on a primary basis.[785]

366. We conclude that the public interest is best served by establishing a single nationwide Public Safety Broadband License for the 700 MHz public safety broadband spectrum. We will assign this license to a single Public Safety Broadband Licensee that will be responsible for implementing the 700 MHz public safety nationwide interoperable broadband network. This network will serve to provide public safety entities access to new broadband technologies across the country. Further, as discussed elsewhere, we provide that the Upper 700 MHz D Block Licensee will gain access to the 700 MHz public safety broadband spectrum on a secondary preemptible basis through a spectrum leasing arrangement with the Public Safety Broadband Licensee. In the paragraphs below, we discuss the rules and policies governing the Public Safety Broadband Licensee.

a. Single Nationwide Geographic Area License

367. Background. In the *700 MHz Public Safety Ninth Notice*, we sought comment on whether to license the 700 MHz public safety broadband spectrum on a nationwide basis. We recognized that licensing the entire public safety broadband spectrum to a single licensee would be a departure from the Commission's traditional practice of licensing individual state and local jurisdictions on a site-by-site basis.

368. Most commenters agree that licensing a single, national public safety entity for the provision of public safety broadband service would best achieve our goal of establishing a nationwide interoperable broadband network. For example, NPSTC states that it "has become increasingly apparent to NPSTC that deployment of a nationwide public safety broadband network is enormously important for emergency responders at all levels of government: local, state and federal."[786] APCO notes that "the public safety community has increasingly recognized the need for consolidation of communications systems and functions." APCO also notes that there are "particular advantages to having a single licensee for the national broadband network."[787] Others also support the nationwide license concept.[788] On the

[783] *Id.*

[784] *700 MHz Public Safety Ninth Notice*, 21 FCC Rcd at 14838 ¶ 3.

[785] *Id.* at 14843 ¶ 19.

[786] NPSTC *700 MHz Public Safety Ninth Notice* Comments at 1.

[787] APCO *700 MHz Public Safety Ninth Notice* Comments at 5.

other hand, some oppose a national licensing approach. For example, the State of California indicates that it does not believe that the nationwide, interoperable, broadband network proposed by the Commission is a viable alternative.[789] Region 43 (Washington) argues that the 700 MHz spectrum should remain under control of the regional planning committees.[790] Sharp Communications contends that public safety agencies should have the ability to license, own and operate their own high-speed data systems.[791] The Metropolitan Washington Airports Authority also opposes a single national public safety broadband licensee.[792]

369. Discussion. Traditional site-by-site licensing is designed primarily to license dispatch radio systems on a transmitter-by-transmitter basis in local areas, yet is very cumbersome for radio systems comprising hundreds or thousands of sites. On the other hand, creating a single nationwide geographic area license offers greater flexibility and eases the administrative burden on both the public safety community and the Commission.[793] We find that centralizing the responsibilities for implementing a broadband network across the entire county under a nationwide geographic area license, assigned to a single entity, best serves the objectives discussed in the *700 MHz Public Safety Ninth Notice*, including the goals of achieving a nationwide level of interoperability and a public safety network that is robust, cost effective, spectrally efficient, and based on a flexible, IP-based, modern architecture.[794] These goals would be very difficult, if not impossible, to achieve under regional, state, or local level spectrum planning approaches. We thus find that the aforementioned benefits of a nationwide license outweigh the concerns expressed by some commenters.

370. In addition, a single Public Safety Broadband Licensee can achieve significant bargaining and purchasing power in acquiring equipment and services needed for the nationwide broadband system, and thus be able to obtain economies of scale with respect to network and radio equipment not unlike nationwide CMRS systems. This licensee also could increase spectrum efficiency as compared to multiple, specialized public safety network "silos" overlapping in the same area and using incompatible frequencies and technologies. Accordingly, we adopt our proposal to license the 700 MHz public safety broadband spectrum as a 10-megahertz block (comprised of paired, 5-megahertz blocks) under a nationwide geographic area license, and we will assign this license to the Public Safety Broadband Licensee.

(Continued from previous page)

[788] *See, e.g.*, Ericsson *700 MHz Public Safety Ninth Notice* Comments at i; First Response Coalition *700 MHz Public Safety Ninth Notice* Comments at 3; Cisco Systems *700 MHz Public Safety Ninth Notice* Comments at iii; AT&T *700 MHz Public Safety Ninth Notice* Comments at i; Missouri State Highway Patrol *700 MHz Public Safety Ninth Notice* Comments at 4-5; Verizon Wireless*700 MHz Public Safety Ninth Notice* Comments at 4-5; WCA *700 MHz Further Notice* Comments at 9; Western Fire Chiefs Association *700 MHz Further Notice* Comments at 1; Virginia Fire Chiefs Association *700 MHz Further Notice* Comments at 2; Cyren Call *700 MHz Further Notice* Comments 2-3; Region 9 (Florida) *700 MHz Further Notice* Comments at 2; California *700 MHz Further Notice* Comments at 4.

[789] California *700 MHz Public Safety Ninth Notice* Comments at 1; *see also* Region 33 (Ohio) *700 MHz Public Safety Ninth Notice* Comments at 4; Texas Interoperability *700 MHz Public Safety Ninth Notice* Comments at 4-7.

[790] Region 43 (Washington) *700 MHz Public Safety Ninth Notice* Comments at 1, 3.

[791] Sharp Communications *700 MHz Public Safety Ninth Notice* Comments at 1.

[792] Metropolitan Washington Airports Authority *700 MHz Public Safety Ninth Notice* Comments at 2; *see also* Region 22 Public Safety Regional Planning Committee *700 MHz Public Safety Ninth Notice* Comments at 1; San Francisco Department of Emergency Management *700 MHz Public Safety Ninth Notice* Comments at 6. Other commenters suggest that it is premature to create a single national network. *See, e.g.*, NATOA *700 MHz Further Notice* Reply Comments at 6-7; Spectrum Coalition for Public Safety *700 MHz Further Notice* Reply Comments at 1-6; RCC *700 MHz Further Notice* Reply Comments at 8-9.

[793] The Commission recognized similar benefits of geographic-based licensing when it adopted state licensing in the 700 MHz Band. *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010, WT Docket No. 96-86, *Third Memorandum Opinion and Order and Third Report and Order*, 15 FCC Rcd 19844, 19867-69 ¶¶ 54-57 (2000).

[794] *700 MHz Public Safety Ninth Notice*, 21 FCC at 14843 ¶ 20.

b. Eligibility Criteria

371. Background. In the *700 MHz Public Safety Ninth Notice*, we proposed that selection of the Public Safety Broadband Licensee should be based on a number of criteria, including, but not limited to, experience with public safety frequency coordination, not-for-profit status, and ability to represent directly all public safety interests. We sought comment on these and other criteria, "to ensure that the national licensee is able and qualified to adequately address the needs of all public safety users."[795] We also proposed "that no commercial interest may be held in the national license or licensee, and that no commercial interest may participate in the management of the national licensee."[796]

372. Several commenters state that the national public safety licensee should not be, or be controlled in any way, by a commercial entity.[797] Other commenters, however, express support for permitting a commercial interest to be held in the public safety broadband licensee.[798] We also received support in the record that the nationwide public safety licensee be a non-profit organization.[799]

373. Discussion. Based on the comments filed on this issue, we establish certain baseline criteria for selecting the Public Safety Broadband Licensee. First, we adopt our proposal that no commercial interest may be held in this licensee, and that no commercial interest may participate in the management of the licensee. The 700 MHz broadband spectrum to be licensed to the Public Safety Broadband Licensee is public safety spectrum and must be controlled by and managed by public safety.[800] We thus reject those comments that express support for permitting a commercial interest to be held in the licensee. Second, for similar reasons, we also adopt our proposal that the licensee must be a non-profit organization. Third, the Public Safety Broadband Licensee must be as broadly representative of the public safety radio user community as possible, including the various levels (*e.g.*, state, local, county) and types (*e.g.*, police, fire, rescue) of public safety entities.[801] Fourth, to ensure that the Public Safety Broadband Licensee is qualified to provide public safety services, an organization applying for the Public Safety Broadband License is required to submit written certifications from a total of at least ten geographically diverse state and local governmental entities, with at least one certification from a state government entity and one from a local government entity. The written certifications from these state and local governmental entities must verify that: (1) they have authorized the applicant to use spectrum at

---

[795] *Id.* at 14844 ¶ 27.

[796] *Id.*

[797] APCO *700 MHz Public Safety Ninth Notice* Comments at 7; *see also* Peha *700 MHz Public Safety Ninth Notice* Comments at 5 ("We cannot place an unregulated for-profit monopoly in charge of critical infrastructure."); Cyren Call *700 MHz Public Safety Ninth Notice* Comments at 9 ("[T]he national licensee must represent and be entirely controlled by public safety entities. Its independence and authority must not be compromised by a commercial entity(s) having even a de facto or, worse, a de jure controlling interest in that licensee.").

[798] *See* Sprint-Nextel *700 MHz Public Safety Ninth Notice* Comments at 7 ("Some degree of participation by commercial entities, such as through a non-controlling or otherwise capped interest, would allow entities with specialized knowledge and real-world experience to more meaningfully contribute to the successful operation and management of an efficient, nationwide, public safety broadband network."); NTCH *700 MHz Public Safety Ninth Notice* Comments at 3 ("instead of divorcing [the Public Safety Broadband Licensee] from commercial carriers, it would be *made up of* them.") (emphasis in original); Mercatus *700 MHz Public Safety Ninth Notice* Comments at 10 ("A for-profit mission and quality service to first responders should not be considered mutually exclusive ideals.").

[799] *See* NPSTC *700 MHz Further Notice* Comments at 6; Nielson *700 MHz Public Safety Ninth Notice* Comments at 3 ("This authority should also be non-profit to avoid any commandeering of the products to be offered and to prevent a monopoly in their availability.").

[800] APCO *700 MHz Public Safety Ninth Notice* Comments at 7; NPSTC *700 MHz Further Notice* Comments at 5; Virginia Fire Chiefs Association *700 MHz Further Notice* Comments at 2; Cyren Call April 5, 2007 *Ex Parte* Notice, Attach. at 4 ("Only by having the FCC license held by an entity controlled by Public Safety will the public safety community have ultimate assurance that the network will be built and operated to meet its requirements.").

[801] NATOA *700 MHz Further Notice* Comments at 3-4; *see also* San Diego County *700 MHz Further Notice* Comments at 12.

763-768 MHz and 793-798 MHz to provide the authorizing entity with public safety services; and (2) the authorizing entities' primary mission is the provision of public safety services.[802] Our goal in establishing these criteria is to ensure that the Public Safety Broadband Licensee focuses exclusively on the needs of public safety entities that stand to benefit from the interoperable broadband network.

374. To ensure broad representation and to provide a balance of the various public safety interests, as stated above, representation on the Board of Directors of the Public Safety Broadband Licensee must include organizations representative not only of first responders, but of local, county, and state governments whose public safety entities must have a voice, as well as emergency management officials who represent first responders at a state and local level. To that end, we require that the Public Safety Broadband Licensee be governed by a voting board consisting of eleven members, one each from the nine organizations representative of public safety listed below, and two at-large members selected by the Public Safety and Homeland Security Bureau and the Wireless Bureau, jointly on delegated authority.[803] The nine organizations that shall be represented on the board, with each organization represented by one voting board member, are: the Association of Public Safety Communications Officials (APCO);[804] the National Emergency Number Association (NENA);[805] the International Association of Chiefs of Police (IACP);[806] the International Association of Fire Chiefs (IAFC);[807] the

[802] We believe these requirements address RCC's concern that the Public Safety Broadband Licensee be qualified to provide "public safety services" pursuant to Section 337(f)(1)(B). *See* RCC *700 MHz Further Notice* Comments at 14 & 21-22. Section 337(a)(1) provides that the Commission must allocate 24 megahertz of spectrum in the Upper 700 MHz band for "public safety services." Section 337(f)(1)(B), in turn, provides that "public safety services" are services that are provided (i) by State or local government entities; or (ii) by nongovernmental organizations that are authorized by a governmental entity whose primary mission is the provision of such services. Because the Public Safety Broadband Licensee will be a nongovernmental organization that will be authorized by a government entity whose primary mission is the provision of public safety services, it will clearly be providing "public safety services" consistent with the requirements of Section 337(f)(1)(B)(ii). We recognize that Section 337(f)(1)(B) by its terms only requires that a nongovernmental organization receive authorization from one governmental entity whose primary mission is the provision of public safety services. However, given the nature of the license at issue here – a nationwide license that will support an interoperable network for use by all public safety entities across the country – we believe that applicants for the Public Safety Broadband License should be able to demonstrate support from a wide range of public safety entities across the country. In particular, authorizations from a broad sample of the public safety community for which the service is intended will better reflect the fact that the mission of the Public Safety Broadband Licensee derives from the primary public safety mission of a nationwide array of governmental entities. Furthermore, as the Public Safety Broadband Licensee launches its service in a given area, we will require that it provide (prior to launch) the same type of certification from at least one public safety governmental entity that plans on using the service in the area that will be served.

[803] We clarify that, in all cases in this Second Report and Order in which authority to take actions is delegated jointly to the Chiefs of PSHSB and WTB, we require any such actions to be approved by both Chiefs.

[804] APCO was established in 1935 and is dedicated to public safety communications. It has 15,000 members from all types of public safety organizations including emergency call centers, law enforcement agencies, emergency medical services, fire departments and emergency management centers. *See* APCO, at http://www.apcointl.com. APCO's membership on the Board of Directors of the Public Safety Broadband Licensee would ensure broad representation of communications professionals in the public safety community.

[805] NENA fosters the technological advancement, availability and implementation of a universal emergency telephone number system, including IP-based Next Generation 911 capabilities. In carrying out its mission, NENA promotes research, planning, training and education. NENA presently has 7,000 members. *See* NENA, at http://www.nena.org. NENA's membership on the Board of Directors of the Public Safety Broadband Licensee would ensure representation of first responders and consideration of issues regarding the 911 link between the public and first responders.

[806] The IACP is the world's oldest and largest nonprofit membership organization of police executives, with over 20,000 members in over 89 different countries. IACP's leadership consists of the operating chief executives of international, federal, state and local agencies of all sizes. *See* IACP, at http://www.theiacp.org. IACP's membership on the Board of Directors of the Public Safety Broadband Licensee would ensure representation of a broad cross-section of police departments.

National Sheriffs' Association;[808] the International City/County Management Association (ICMA);[809] the National Governor's Association (NGA);[810] the National Public Safety Telecommunications Council (NPSTC);[811] and the National Association of State Emergency Medical Services Officials (NASEMSO).[812] Each of the two members at large also shall have one vote. No member organization shall be controlled by a commercial entity. If any one of these organizations cannot participate on the voting board for any reason, such organization shall be replaced on the board by another at-large member, selected by the Public Safety and Homeland Security Bureau and the Wireless Bureau, jointly on delegated authority. This composition of the voting board ensures that local public safety agencies and governments will continue to have a voice in the use of the 700 MHz public safety broadband spectrum, as the overwhelming number of first responders are local government employees or volunteers.

375. As stated above, each member of the Board of Directors shall have only one vote, and decisions of the Public Safety Broadband Licensee, unless otherwise stated herein, shall be by a simple majority vote of the Board of Directors. In addition, we specify below certain minimum elements of the Articles of Incorporation or Bylaws, as appropriate, of the Public Safety Broadband Licensee or for which there can be no conflicting provisions:

Articles of Incorporation:

(Continued from previous page)

[807] Established in 1873, the IAFC is a network of more than 12,000 chief fire and emergency officers. Its members are the world's leading experts in fire fighting, emergency medical services, terrorism response, hazardous materials spills, natural disasters, search & rescue, and public safety legislation. *See* IAFC, at http://www.iafc.org. IAFC's membership on the Board of Directors of the Public Safety Broadband Licensee would ensure representation of a broad cross-section of firefighters and emergency medical services first responders.

[808] Chartered in 1940, the National Sheriffs' Association is a non-profit organization dedicated to raising the level of professionalism among sheriffs, their deputies, and others in the field of criminal justice and public safety. *See* National Sheriffs' Association at http://www.sheriffs.org. The National Sheriffs' Association's membership on the Board of Directors of the Public Safety Broadband Licensee would ensure representation of law enforcement within rural and local levels with smaller populations.

[809] Founded in 1914, the ICMA has 8,200 members and is a local government leadership and management organization. Its mission is to create excellence in local governance by advocating and developing the professional management of local governments worldwide. *See* ICMA, at http://www.icma.org. ICMA's membership on the Board of Directors of the Public Safety Broadband Licensee would ensure representation of local governments of all sizes, and will give a voice to city, town, and county governments of all sizes responsible for public safety and first responder organizations.

[810] Founded in 1908, the NGA is the collective voice of the nation's governors. It provides governors and their senior staff members with services that include representing states on Capitol Hill and before the Administration on key federal issues and developing policy reports on innovative state programs. *See* NGA, at http://www.nga.org. NGA's membership on the Board of Directors of the Public Safety Broadband Licensee would ensure representation of state governments, including state police and national guard agencies, and coordination with efforts to obtain public safety communications interoperability at the state level.

[811] NPSTC is a federation of organizations whose mission is to improve public safety communications and interoperability through collaborative leadership. *See* NPSTC, at http://www.npstc.org. Formed on May 1, 1997, NPSTC is a federation of organizations representing public safety telecommunications. NPSTC was originally formed to encourage and facilitate implementation of the findings and recommendations of the Public Safety Wireless Advisory Committee (PSWAC), established in 1994 by the Commission and the National Telecommunications and Information Administration (NTIA) to evaluate the wireless communications needs of local, tribal, state, and federal public safety agencies through the year 2010, identify problems, and recommend possible solutions.

[812] NASEMSO was formed in 1980 as a non-profit organization. NASEMSO supports its members in developing EMS policy and oversight, as well as in providing vision, leadership and resources in the development and improvement of state, regional and local EMS and emergency care systems. *See* NASEMSO, at http://www.nasemsd.org. NASEMSO's membership on the Board of Directors of the Public Safety Broadband Licensee would ensure consideration of the unique communications needs of medical services first responders at all levels of government.

- Purposes: Include, among the purposes of the Public Safety Broadband Licensee, the following: In its role as the licensee and manager of the Public Safety Broadband License, the purpose of the Public Safety Broadband Licensee is to represent the interests of all public safety entities to ensure that their broadband spectrum needs are met in a balanced, fair, and efficient manner, in the interests of best promoting the protection of life and property of the American public.
- Powers: Include, among the powers of the Public Safety Broadband Licensee, the following: The licensee shall, consistent with its purposes, enter into agreements to ensure the construction, maintenance, and operation of a nationwide, interoperable, public safety broadband network.
- Corporate Status: Specify non-profit status.
- Directors: Only those entities identified in this Second Report and Order for representation on the Board of Directors shall be eligible for membership. Each member entity shall have one representative on the Board of Directors.
- Amendment. The Articles of Incorporation may be amended, repealed, or altered in whole or in part by a two-thirds (2/3) majority vote at any properly called meeting of the Board of Directors, so long as no such action conflicts with any of the requirements, prohibitions, or provisions of this Second Report and Order.

Bylaws:

- Members. Each member entity shall have one vote on the Board of Directors. Proxy voting shall not be allowed.
- Discontinuance of Membership. Any member of the Board of Directors may at anytime resign from membership by forwarding to the FCC, to the attention of the Defense Commissioner, a resignation in writing, provided that any outstanding obligations of such member to the Public Safety Broadband Licensee have been fully discharged. No Board Member may be removed or otherwise have their participation on the Board of Directors limited at any time except by Order of the FCC, on delegated authority to the Chiefs of the PSHSB and WTB.
- Officers. A Chairman of the Board, Vice Chairman of the Board, and Secretary/Treasurer each shall be selected every two years from among the members of the Board of Directors, by a two-thirds (2/3) majority vote of the Board of Directors. The Chairman shall have, as a representative of a member entity, one vote, regardless of his/her position as Chairman.
- Duties of Chairman. The Chairman shall be responsible for the orderly and efficient conduct of the business of the Board of Directors; however, nothing shall entitle the Chairman to conduct the business of the Public Safety Broadband Licensee except as explicitly authorized and approved by the Board of Directors by two-thirds (2/3) majority vote.
- Duties of Vice Chairman. The Vice Chairman shall perform duties as assigned to him/her by the Chairman and/or the Board of Directors, and shall act as Chairman in the absence of the Chairman.
- Duties of Secretary/Treasurer. The Secretary/Treasurer shall be responsible for the financial affairs of the Public Safety Broadband Licensee, and shall ensure that the Public Safety Broadband Licensee files, on a quarterly basis, as required herein, a complete financial accounting to the Commission, as well as make available, upon request by the Commission or Commission staff, financial statements and/or other financial information as requested.
- Quorum. A majority of the members of the Board of Directors shall constitute a quorum for the transaction of business by the Board; however, the requirement of a majority or two-thirds (2/3) majority vote shall mean a majority of all members of the Board of Directors, not simply of members in attendance at a meeting and counted as part of the Quorum.

- Absence. Should any member of the Board of Directors be absent from three consecutive meetings of the Board, such member entity shall be presented to the Chiefs of PSHSB and WTB to decide, on delegated authority, whether such absence constitutes resignation of such member entity.
- Amendment. The Bylaws may be amended, repealed, or altered in whole or in part by a two-thirds (2/3) majority vote any properly called meeting of the Board of Directors, so long as no such action conflicts with any of the requirements, prohibitions, or provisions of this Second Report and Order.
- Non-profit Status. As a non-profit corporation, the Public Safety Broadband Licensee shall have no authority to issue capital stock or equity. Under no circumstances may a Member of the Board of Directors be controlled by or represent a commercial entity.
- Compensation. Any compensation to or on behalf of a Board Member shall be limited to services performed in furtherance of the purposes of the Public Safety Broadband Licensee, and shall be approved by two-thirds (2/3) vote of the entire Board of Directors.

376. To the extent some of these provisions may require extensive FCC oversight, we find such oversight in the affairs of the Public Safety Broadband Licensee to be appropriate. Such oversight is necessary in light of the nature of the public safety broadband spectrum licensed to the Public Safety Broadband Licensee as a national asset, and in furtherance of the Commission's role in ensuring the protection and efficient use of such asset for the benefit of the safety of the public.

377. In order to ensure the level of transparency required for the Commission and its staff to provide meaningful oversight of the affairs of the Public Safety Broadband Licensee, the Public Safety Broadband Licensee shall be required to submit, on a quarterly basis, a full financial accounting to the Commission, in a format to be set forth in the NSA (in order to ensure agreement from the commercial partner to such disclosure, as such disclosure will be related to the financial affairs of the commercial partner), and as approved by the Commission. Such quarterly financial reports shall be filed with the Commission, with a copy to the Chiefs of the Wireless and the Public Safety and Homeland Security Bureaus.

c. Selection Process

378. Background. We have adopted herein a single nationwide licensee approach and specified minimum eligibility criteria. As noted, this is a significant departure from our traditional approach to licensing public safety operations.

379. Discussion. We conclude that the Public Safety Broadband Licensee will have a number of novel and significant responsibilities that will be essential to the success of the national broadband public safety network. Thus, we take very seriously the importance of selecting a well-qualified entity to serve as this licensee. Further, we recognize that the unique requirements of this licensee that we establish herein likely means that no existing entity could serve this role; rather, the Public Safety Broadband Licensee may need to be newly formed.

380. We delegate authority to the Chief of the PSHSB to issue a public notice within thirty days of the release of this Second Report and Order soliciting applications for the Public Safety Broadband Licensee. The public notice shall specify the baseline criteria we establish herein, and describe the procedures and other requirements for submitting applications. The Commission will select the Public Safety Broadband Licensee and grant to it the Public Safety Broadband License consistent with the requirements and considerations set forth herein.

d. Responsibilities of the Public Safety Broadband Licensee

381. Background. In the *700 MHz Public Safety Ninth Notice*, we sought comment on how a public safety broadband licensee could best implement a broadband network that maximizes the inherent advantages of broadband communications.[813] We also envisioned the prospect of this licensee engaging

[813] *700 MHz Public Safety Ninth Notice*, 21 FCC Rcd at 14845 ¶ 31.

in a public/private partnership with a commercial entity for shared use of a common network architecture.[814]

382. APCO recommends the public safety broadband licensee retain the discretion to make its own determination regarding system architecture, the particular technology to be used and network resiliency capability.[815] Motorola states that the licensee must have the ability to evaluate and determine the most suitable broadband technology to meet the needs of public safety.[816] Similarly, Cyren Call argues that the licensee should have ultimate control over the development of the public safety specific technical standards and requirements to be incorporated into the network.[817] The Virginia Fire Chiefs Association comments that the licensee should have discretion over the degree of commercial use of the public safety network.[818] NPSTC describes among the responsibilities of the licensee to negotiate an agreement with the commercial partner, and structure the broadband network across the country, by aligning user capacity needs, advising on application and device standards, invoking priority access to the commercial broadband spectrum, and examining commercial secondary use of the public safety broadband spectrum.[819]

383. Discussion. We find, consistent with the comments we received, that the objectives specified in the *700 MHz Public Safety Ninth Notice* can best be met by affording the Public Safety Broadband Licensee significant flexibility and control in connection with the construction and use of the nationwide broadband public safety network. Providing the Public Safety Broadband Licensee sufficient flexibility will allow it to specify the requirements of the public safety portion of the broadband network to best meet public safety needs. At the same time, we seek to balance the discretion afforded the Public Safety Broadband Licensee with the concurrent and separate responsibilities of the Upper 700 MHz Band D Block licensee and, of course, the public interest. Accordingly, we assign to the Public Safety Broadband Licensee the following general responsibilities:[820]

- Negotiation of the Network Sharing Agreement (NSA) with the winning bidder at auction for the Upper 700 MHz Band D Block license, pursuant to the terms and timelines described below.
- General administration of access to the national public safety broadband network by individual public safety entities, including assessment of usage fees to recoup its expenses and related frequency coordination duties.
- Regular interaction with and promotion of the needs of the public safety entities that would utilize the national public safety broadband network, within the technical and operational confines of the NSA.
- Use of its national level of representation of the public safety community to interface with equipment vendors on its own or in partnership with the D Block licensee, as appropriate, to achieve and pass on the benefits of economies of scale concerning network and subscriber equipment and applications. Any partnership with the D Block licensee in conjunction with this responsibility shall not limit or alter the Public Safety Broadband Licensee's right to determine and approve the specifications of public safety equipment that is used on its network.[821]

---

[814] *See id.* at 14845-48 ¶¶ 29, 32, 41.

[815] APCO *700 MHz Public Safety Ninth Notice* Comments at 10-11.

[816] Motorola *700 MHz Public Safety Ninth Notice* Comments at 15.

[817] Cyren Call *700 MHz Further Notice* Comments at 8.

[818] Virginia Fire Chiefs *700 MHz Further Notice* Comments at 2.

[819] *See* NPSTC *700 MHz Further Notice* Comments at 8.

[820] Each of these responsibilities is addressed more fully at various points throughout this Second Report and Order.

[821] *See infra* ¶ 405.

- Sole authority, which cannot be waived in the NSA, to approve, in consultation with the D Block licensee, equipment and applications for use by public safety entities on the public safety broadband network. Accordingly, state and local public safety entities must obtain approval from the Public Safety Broadband Licensee prior to employing any equipment or applications on the public safety broadband network. State or local entities may seek review of a decision by the Public Safety Broadband Licensee not to permit a desired piece of equipment or application, or particular specifications for equipment or applications, from the Chief, Public Safety and Homeland Security Bureau, on an expedited basis, and then to the full Commission.
- Coordination of stations operating on public safety broadband spectrum with public safety narrowband stations, including management of the internal public safety guard band.
- Oversight and implementation of the relocation of narrowband public safety operations in channels 63 and 68, and the upper 1 megahertz of channels 64 and 69.
- Exercise of sole discretion, pursuant to Section 2.103 of the Commission's rules, whether to permit Federal public safety agency use of the public safety broadband spectrum, with any such use subject to the terms and conditions of the NSA.[822]
- Responsibility for reviewing requests for wideband waivers and including necessary conditions or limitations consistent with the deployment and construction of the national public safety broadband network, and consistent with the procedures and restrictions in connection with such waivers that we have established elsewhere in this Second Report and Order.
- Responsibility to facilitate negotiations between the winning bidder of the D Block license and local and state entities to build out local and state-owned lands.

e. Licensing Issues

384. Background. As noted above, in the *700 MHz Public Safety Ninth Notice*, we proposed licensing the 700 MHz public safety spectrum on a nationwide basis.[823] We suggested certain baseline performance requirements for the national licensee, but otherwise made no specific proposals with regard to license terms.[824]

385. Discussion. We will grant the nationwide 700 MHz public safety broadband license for a term not to exceed 10 years from February 17, 2009, which coincides with the term of the NSA and the term of the D Block license established elsewhere in this Second Report and Order. With certain limited exceptions, this geographic area license will provide the Public Safety Broadband Licensee with blanket authority to permit construction and operations of broadband base stations across the national license area.[825] The licensee will have a renewal expectancy, pursuant to which its license will be renewed barring violations of law, rules or policy warranting denial of renewal, or changes in regulatory direction under the rulemaking process, necessitating denial. Finally, we will permit public safety end users (mobile/portable operation) to operate without individual licenses under the auspices of the Public Safety Broadband License. In order to ensure the integrity of the nationwide broadband network and the 700

[822] The Commission previously has determined that Section 337 does not bar Federal Government public safety entities from using the 700 MHz Band under certain conditions. Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010, WT Docket No. 96-86, *First Report & Order and Third Notice of Proposed Rulemaking*, 14 FCC Rcd 152, 184 ¶ 66 (1998); *see also* 47 C.F.R. § 2.103(b).

[823] *See 700 MHz Public Safety Ninth Notice*, 21 FCC Rcd at 14843 ¶ 19.

[824] *Id.*

[825] The license area of the Public Safety Broadband License is composed of the contiguous 48 states, Alaska, Hawaii, the Gulf of Mexico, and the U.S. territories. The geographic scope of the Public Safety Broadband License therefore matches the scope of the D Block license.

MHz Public/Private Partnership that we are enabling, we will prohibit disaggregation or partitioning of the Public Safety Broadband License. In addition, we prohibit the voluntary assignment or transfer of control of this license.[826] Also, as discussed elsewhere in this Second Report and Order, we will allow the Upper 700 MHz D Block Licensee to gain access to the 700 MHz public safety broadband spectrum on a secondary preemptible basis, through a spectrum leasing arrangement with the Public Safety Broadband Licensee, for use in the 700 MHz Public/Private Partnership.

C. 700 MHz Public/Private Partnership

386. In this section, we adopt a regulatory framework for establishing a public/private partnership between a 700 MHz Band commercial licensee and the Public Safety Broadband Licensee to further the Commission's goal of making a nationwide, interoperable broadband network available to state and local public safety users. Consistent with the proposal raised in the *700 MHz Further Notice*, we conclude that it would serve the public interest to adopt service rules establishing a nationwide 10-megahertz commercial license in the Upper 700 MHz Band D Block that will be awarded to the winning bidder once it has entered into a Commission-approved Network Sharing Agreement (NSA) with the Public Safety Broadband Licensee. This D Block license will be conditioned upon its commercial licensee constructing and operating a nationwide, interoperable broadband network across both the D Block and the 700 MHz public safety broadband spectrum. This network must be used to provide both a commercial service and a broadband network service to public safety entities.[827]

387. Accordingly, we designate the D Block in the Upper 700 MHz Band for use with the 700 MHz Public/Private Partnership that we are enabling, and we provide substantive and procedural safeguards applicable to this public/private partnership to address public safety concerns.[828] We establish requirements regarding the nature of the shared wireless broadband network and the respective rights and obligations of the D Block licensee and the Public Safety Broadband Licensee regarding their partnership and the network. We also adopt rules governing the establishment and execution, prior to the award of the D Block license, of the NSA between the Public Safety Broadband Licensee and the winning bidder of the D Block to facilitate shared use of the network and the spectrum over which it operates.[829] In addition, we place certain other conditions on the D Block license to protect services to the public safety community and facilitate the success of the 700 MHz Public/Private Partnership, including requirements relating to the organization and structure of the partnership, reporting requirements, and a prohibition on the discontinuance of public safety operations. Finally, we address other issues, including bidding credits, license term and renewal, partitioning and disaggregation, license assignment and transfer, wholesale, open access, and roaming proposals, and the applicability of certain regulatory requirements to the D Block licensee.

1. Adoption of the 700 MHz Public/Private Partnership

388. Background. In the *700 MHz Further Notice*, we sought comment on Frontline's proposal that the Commission designate a nationwide 10-megahertz commercial license in which the

---

[826] We will treat on a case-by-case basis possible involuntary transfers of control of the Public Safety Broadband Licensee, or other possible transfers of control based on changes in the Board, such as the disbanding of a constituent organization.

[827] *700 MHz Further Notice*, 22 FCC Rcd at 8161 ¶ 272.

[828] Any reference to D Block in this order will refer specifically to the Upper 700 MHz D Block, except where specifically noted to the contrary.

[829] Parties to the NSA are the Public Safety Broadband Licensee, the winning bidder of the D Block license, the special purpose bankruptcy remote entity to be the D Block licensee, the special purpose bankruptcy remote entity to hold the network assets, and the Operating Company. References in this Second Report and Order to the rights and obligations of the "Upper 700 MHz D Block licensee," the "D Block licensee," or other formulations used in this order include, as appropriate, the exercise or discharge of such rights or obligations, respectively, by related entities that are provided for in the NSA or otherwise as authorized by the Commission. Upon issuance of the D Block license, the winning bidder of the D Block license will assign all of its rights and obligations under the Network Sharing Agreement to the D Block licensee.

licensee would be responsible for constructing and operating a common, interoperable broadband network infrastructure, operating on spectrum associated both with its license and the 700 MHz public safety broadband license, which would be used to provide both a commercial service and a broadband network service to public safety entities.[830] The commercial network would have access to the public safety broadband spectrum on a secondary basis,[831] and broadband public safety users would have priority access to the network in times of emergency.[832] Frontline proposed specific performance requirements requiring the commercial licensee to meet certain specified build-out benchmarks during the fourth, seventh, and tenth years. Frontline also proposed a number of other restrictions on the commercial services provided, including that those commercial services be provided on a "wholesale," "open-access" basis only, with nationwide roaming services.[833]

389. In Frontline's filings on which we sought comment, Frontline contended that its proposal would serve the key communications needs of the public safety community. In particular, it argued that the proposal would provide the public safety community with more broadband spectrum; facilitate the build-out of a nationwide, interoperable public safety broadband network; promote maximum equipment choice; and provide public safety with unit-level control over local agency networks.[834] Frontline also contended that its proposal would benefit other stakeholders, such as rural and smaller carriers who would benefit from nationwide roaming services.[835]

390. We sought comment on the likely effects of Frontline's proposal on both commercial and public safety users in the 700 MHz Band and whether adoption of such a proposal would serve the public interest. We also sought comment generally 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.[836]

391. In response to the *700 MHz Further Notice*, commenters supporting Frontline's proposal argue that, although some jurisdictions may be able to raise funds sufficient to build out advanced networks, many others cannot. These commenters contend that build-out of a public safety broadband network through private capital represents the best chance for establishing a nationwide, interoperable public safety broadband network.[837] For example, Embarq argues that "a single network built, paid for, and operated by a wholesale-only provider, such as suggested by the Frontline proposal, provides the best chance for various different federal, state, and local Public Safety agencies to have a unified, effective network architecture supporting public safety."[838] Several commenters express their support for establishing public/private partnerships more generally. Sprint Nextel notes that "public-private partnerships can enable public safety agencies to take advantage of commercial, off-the-shelf technology and otherwise benefit from commercial carriers' investments in research and development of advanced wireless technologies."[839] Google notes that, "given the immense expense and expertise necessary to

---

[830] *700 MHz Further Notice*, 22 FCC Rcd at 8164 ¶ 277.

[831] *Id.* at 8161-62 ¶ 273 n.553.

[832] *Id.* at 8162 ¶ 274.

[833] *Id.* at 8163 ¶ 275.

[834] Frontline *700 MHz Public Safety Ninth Notice* Comments at 1.

[835] *Id.*

[836] *Id.* at 8160-68 ¶¶ 268-290.

[837] *See, e.g.*, Cellular South *700 MHz Further Notice* Comments at 19-20; Embarq *700 MHz Further Notice* Comments at 3-4; Cyren Call *700 MHz Further Notice* Reply Comments at vi; APCO *700 MHz Further Notice* Reply Comments at 2.

[838] Embarq *700 MHz Further Notice* Comments at 3-4.

[839] Sprint Nextel *700 MHz Further Notice* Comments at 7-8.

build and operate a first-class wireless network, commercial and non-commercial entities should be given all the regulatory tools necessary to work together to help solve each other's problems."[840] Some parties also express their support for the conditions that Frontline would have us place on the commercial licensee associated with the proposed public/private partnership.[841]

392. Other commenters oppose Frontline's proposal. Several contend that Section 337 of the Act prohibits the Commission from adopting the Frontline proposal.[842] Others argue that the conditions Frontline proposes for the commercial licensee in the partnership, including wholesale restrictions, open access, and roaming requirements, would likely reduce the number of potential bidders and drive down the price of the spectrum[843] or that such conditions would require the public/private partnership to operate under a business model that is risky and unproven.[844] Opponents also argue that, instead of imposing restrictive conditions, the Commission should let market forces work to provide infrastructure and/or service to the public safety community.[845]

393. Opponents also express other concerns about the risks and uncertainties associated with certain aspects of the Frontline proposal.[846] Some are skeptical that a commercial operator of a national public safety broadband network will serve public safety's needs.[847] Noting Frontline's proposal that the commercial licensee must "consult" with the public safety broadband licensee on design, construction, and operation of the shared network, NATOA argues that "the mere duty to 'consult' does nothing to protect the interests and goals of the public safety community."[848]

394. Finally, several commenters express partial or conditional support for the Frontline proposal. For example, Cyren Call generally expresses support for the public/private partnership approach outlined in Frontline's proposal, but raises concerns about several aspects of the proposal and recommends that the Commission address certain "structural defects" in the proposal.[849] APCO cites the potential benefits of the public safety/private partnership approach outlined in Frontline's proposal, but argues that additional measures are necessary to ensure that such a partnership serves the needs of the

---

[840] Google *700 MHz Further Notice* Comments at 8.

[841] *See, e.g.*, PISC *700 MHz Further Notice* Comments at 12; CCIA *700 MHz Further Notice* Comments at 5-7; Cellular South *700 MHz Further Notice* Comments at 19-20.

[842] CTIA *700 MHz Further Notice* Comments at 19; L-3 *700 MHz Further Notice* Comments at 10; MetroPCS *700 MHz Further Notice* Comments at 10; NATOA 700 *MHz Further Notice* Comments at 15; New York, NY *700 MHz Further Notice* Comments at 5-7; RCC *700 MHz Further Notice* Comments at 20-22.

[843] Alltel *700 MHz Further Notice* Comments at 5 (stating that "limiting the number of bidders through service restrictions and public interest obligations could result in a below market price for the E Block spectrum, effectively giving it away without any concomitant guarantee of performance of the licensee's promises."); AT&T *700 MHz Further Notice* Comments at 10; CTIA 700 *MHz Further Notice* Comments at 18. *But see* Frontline *Ex Parte*, WT Docket No. 06-150 (filed June 29, 2007) (arguing that adopting the Frontline proposal will increase the price of the commercial license subject to public/private partnership obligations, by encouraging new entrants to bid and by promising the winner access to public safety spectrum on a secondary basis).

[844] AT&T *700 MHz Further Notice* Comments at 12-13; MetroPCS *700 MHz Further Notice* Comments at 10-11; NATOA *700 MHz Further Notice* Comments at 11; Union *700 MHz Further Notice* Comments at 16.

[845] MetroPCS *700 MHz Further Notice* Comments at 80-81 (recommending that the Commission provide incentives for all commercial licensees to forge cooperative arrangements with public safety, rather than "endorsing a monopoly service provider"); Arcadian *700 MHz Further Notice* Reply Comments at 4-6; AT&T *700 MHz Further Notice* Reply Comments at 10-17; Stelera Wireless *700 MHz Further Notice* Reply Comments at 1-3.

[846] Arcadian *700 MHz Further Notice* Reply Comments at 4-6; NATOA *700 MHz Further Notice* Reply Comments at 5-6.

[847] L-3 *700 MHz Further Notice* Comments at 11-12; NATOA *700 MHz Further Notice* Comments at 12; New York, NY *700 MHz Further Notice* Comments at 7-8; RCC *700 MHz Further Notice* Reply Comments at 23.

[848] NATOA *700 MHz Further Notice* Comments at 12.

[849] Cyren Call *700 MHz Further Notice* Comments at iii-iv.

public safety community.[850]

395. Discussion. We conclude that establishing a regulatory framework to effectuate a public/private partnership between the Commission-selected Public Safety Broadband Licensee and the winning bidder of the Upper 700 MHz Band D Block license would serve the public interest by enabling the construction of a nationwide, interoperable broadband public safety network to protect the safety of the life, health and property of all Americans. We also find, however, that several modifications to Frontline's proposal, as well as additional measures, are necessary to ensure that such a partnership is successful and serves the needs of the public safety community. Accordingly, we designate the D Block in the Upper 700 MHz Band to be licensed to a commercial entity on a nationwide basis for the purpose of entering into the 700 MHz Public/Private Partnership with the Public Safety Broadband Licensee, and we adopt a number of conditions, requirements, and procedures to safeguard services to public safety entities and address concerns about the success of the partnership, as discussed more fully below.

396. In the *700 MHz Public Safety Ninth Notice*, we proposed a plan to promote the rapid deployment of a nationwide, interoperable, broadband public safety network.[851] Our objective was to maximize public safety access to interoperable, broadband spectrum in the 700 MHz Band, and to foster and promote the development and deployment of advanced broadband applications using modern, IP-based system architecture.[852] We find that promoting commercial investment in the build-out of a shared network infrastructure addresses the most significant obstacle to constructing a public safety network – the limited availability of public funding. Providing for a shared infrastructure that uses the D Block and the public safety broadband spectrum will help achieve significant cost efficiencies.[853] It will allow public safety agencies "to take advantage of commercial, off-the-shelf technology and otherwise benefit from commercial carriers' investments in research and development of advanced wireless technologies."[854] It will also benefit the public safety community by providing it with access to an additional 10 megahertz of broadband spectrum during emergencies, when it is needed most. Most importantly, it will provide all of these benefits on a nationwide basis. The public/private partnership approach thus provides the most practical means of speeding deployment of a nationwide, interoperable, broadband network for public safety service that is designed to meet their needs in times of crisis.[855] At the same time, it will provide the D Block licensee with rights to operate commercial services in the 10 megahertz of public safety broadband spectrum on a secondary, preemptible basis, which will both help to defray the costs of build-out and ensure that the spectrum is used efficiently.

397. We are not persuaded that alternatives to a public/private partnership suggested by some commenters would achieve the same benefits. For example, if we merely provided incentives for carriers voluntarily to enter into equivalent partnerships, we could not be confident that any carrier would actually agree to such an arrangement on a nationwide basis. Such *ad hoc* partnerships could occur at a local or regional level, leaving large areas of the nation without an interoperable public safety network. Separate, independently-created public/private networks could also operate on different spectrum, making interoperability across the different networks difficult to achieve.

---

[850] APCO *700 MHz Further Notice* Comments at 14-22. Other commenters also argue that additional conditions should be imposed on the public safety/private partnership licensee to ensure that the partnership serves the needs of public safety. *See, e.g.*, Fire Fighters Georgia *700 MHz Further Notice* Comments at 2; Fire Fighters Hawaii *700 MHz Further Notice* Comments at 2; NPSTC *700 MHz Further Notice* Reply Comments at 3.

[851] *700 MHz Public Safety Ninth Notice*, 21 FCC Rcd at 14838 ¶ 3.

[852] *Id.*

[853] *See, e.g.*, APCO *700 MHz Further Notice* Comments at 11; Northrop Grumman *700 MHz Further Notice* Comments at 5; Sprint Nextel *700 MHz Further Notice* Comments at 7-8.

[854] Sprint Nextel *700 MHz Further Notice* Comments at 7-8; *see also* Cyren Call *700 MHz Further Notice* Reply Comments at vi.

[855] *See, e.g.*, APCO *700 MHz Further Notice* Comments at 11; Cellular South 700 *MHz Further Notice* Comments at 19-20; Embarq *700 MHz Further Notice* Comments at 3-4; Cyren Call *700 MHz Further Notice* Reply Comments at vi.

398. In the sections that follow, we consider the record in this proceeding regarding establishing a public/private partnership for development of a nationwide, shared interoperable wireless broadband network – including those issues Frontline raises in its proposal and those commenters identify – and we address the specific features that we establish with regard to the 700 MHz Public/Private Partnership.

399. First, we set forth essential components of the 700 MHz Public/Private Partnership. We specify certain parameters for the shared wireless broadband network, including features relating to the technology platform, signal coverage, robustness and reliability, capacity, security, operational capabilities and control, and certain equipment specifications. With regard to the spectrum shared by the common network, we require the Public Safety Broadband Licensee to lease the public safety broadband spectrum for commercial use by the D Block licensee on a secondary, preemptible basis, and we provide that public safety entities will have priority access to the Upper 700 MHz D Block spectrum during emergencies. We also establish certain minimal performance requirements relating to construction and build-out of the shared 700 MHz Public/Private Partnership network. Next, we specify certain mandatory provisions of the Network Sharing Agreement that the parties will enter into as part of the Public/Private Partnership. In addition, we establish a license term for the D Block license. Finally, we provide that this licensee will have the exclusive right and obligation to build out the shared network using the 700 MHz public safety broadband spectrum, except in very limited situations.

400. Second, we provide several safeguards relating to the 700 MHz Public/Private Partnership. These safeguards include certain procedural rules regarding how the NSA will be negotiated and executed. Thus, we require that the NSA be approved by the Commission and executed by the parties as a pre-condition of the grant of the D Block license to the winning bidder. We also impose certain obligations regarding timeframes for the negotiation process. We further establish that, if a negotiation dispute must be brought to the Commission, the Commission may choose from a number of alternative measures, at its option, to address the dispute, including issuing a decision resolving outstanding issues or possibly reauctioning the D Block license.

401. In addition, to support continued construction and operation of the shared wireless broadband network and to address contingencies that might result in the event that the D Block licensee or any related entities suffer financial problems, or defaults on its obligations, we impose a number of measures to ensure implementation of the network and the prevention of any interruption in ongoing network services on which public safety users are depending. Given the critical public interest goal of providing 700 MHz broadband network service to the nation's local and state public safety entities, these measures include establishing requirements relating to the organization and structure of the 700 MHz Public/Private Partnership that should reduce the risk that the D Block license or network assets will be drawn into bankruptcy. To guard against discontinuance of operations, we prohibit this licensee or any related entities from discontinuing or degrading service to public safety users absent Commission approval. We also require that the Public Safety Broadband Licensee be granted an assignable right to purchase the assets of the network in the event the D Block license is cancelled or terminated, by reason of default or for any other reason, and a right of first refusal to purchase the network assets if and whenever such assets are otherwise to be sold. In the event the D Block license is cancelled and the spectrum is awarded to a new licensee, we provide that the Public Safety Broadband Licensee's right to purchase will be assigned to the new D Block licensee.

402. Third, we address the remaining issues relating to the D Block license. Specifically, we conclude that although partitioning or disaggregation of the license will not be permitted, we will permit assignment or transfer of the license provided that the Commission is satisfied that this would be in the public interest. We also address other issues relating to the commercial services offered by the D Block licensee under the license authorization. In particular, we decline to adopt the wholesale/open access proposals for this license, or impose special roaming requirements for application to this particular license. Finally, we clarify that we will require the D Block licensee to meet regulatory obligations such as E911 and CALEA to the same extent as providers in other commercial spectrum.

2. Essential Components of Public/Private Partnership

a. Shared Wireless Broadband Network

403. Background. In its original filings on which we sought comment in the *700 MHz Further Notice*, Frontline proposed that the shared broadband network should satisfy certain general requirements, including meeting public safety standards for robustness, security, redundancy, and interoperability.[856] Frontline contended, however, that the specifications for the shared broadband network should be left to negotiation between the commercial licensee and the public safety broadband licensee, and its proposed rule would merely require that the commercial licensee "consult" with the public safety broadband licensee before determining network specifications. Frontline also proposed that the commercial licensee's commercial operation be subject to the same survivability, throughput, security, and interoperability requirements specified by the public safety broadband rules.[857]

404. Public safety commenters argue that Frontline's proposal that the commercial licensee only be obligated to "consult" with public safety is insufficient to ensure that the technical specifications established for the network would meet public safety needs.[858] APCO argues that "the network sharing agreement must contain provisions to address the required levels of service reliability, necessary security levels, system maintenance, redundancy and other critical matters."[859] NPSTC states that "the network's infrastructure and operations, and its quality of service, must reflect public safety's long identified standards of coverage, priority access and system restoration, reliability and security."[860] NPSTC also states that capacity is a key consideration, arguing that "the Commission should require a detailed capacity plan as one of the central elements in the negotiated agreement . . . ."[861] RCC expresses concern about the commercial licensee's ability to meet public safety needs, noting that "commercial interest cannot, consistent with profit maximization, provide the coverage, network robustness, maintenance and operations protocols, and other system characteristics required by public safety."[862] Other commenters express concern about the potential for public safety network requirements to make the spectrum less desirable to potential bidders. For example, AT&T asserts that uncertainty regarding the scope of the "network design requirements" would make it difficult for potential bidders to make an informed business judgment about the spectrum's value.[863]

405. Discussion. In order to have a successful public/private partnership with a shared nationwide interoperable broadband network infrastructure that meets the needs of public safety, we adopt certain network requirements. The public/private partnership network will serve as the nation's public safety wireless broadband network infrastructure, so it must meet the requirements of a public safety communications network. Accordingly, we require that the network incorporate, at a minimum, the following:

---

[856] Frontline *700 MHz Public Safety Ninth Notice* Comments at 17.

[857] Frontline Mar. 6 Comments in WT Docket No. 06-150 at 13.

[858] *See* NATOA *700 MHz Further Notice* Comments at 12 ("the mere duty to 'consult' does nothing to protect the interests and goals of the public safety community. There is apparently no requirement that the E Block licensee adopt any recommendation of the public safety group.").

[859] APCO *700 MHz Further Notice* Comments at 18.

[860] NPSTC *700 MHz Further Notice* Comments at 12.

[861] *Id.* at 13. A number of commenters also suggested that the public safety community develop a "statement of requirements" and publish it substantially prior to the auction. *See, e.g.*, APCO *700 MHz Further Notice* Reply Comments at 15; Frontline *700 MHz Further Notice* Reply Comments at 12-13; NENA *700 MHz Further Notice* Reply Comments at 2; Verizon Wireless *700 MHz Further Notice* Reply Comments at 7.

[862] RCC *700 MHz Further Notice* Reply Comments at 52.

[863] AT&T *700 MHz Further Notice* Comments at 13; *see also* Verizon Wireless *700 MHz Further Notice* Reply Comments at 23-24, 25 (clear specifications of public safety's requirements must be provided in advance of the auction to comply with the requirements of Section 309(j)(3)(E) of the Act and ensure commercial success).

- Specifications for a broadband technology platform that provides mobile voice, video, and data capability that is seamlessly interoperable across agencies, jurisdictions, and geographic areas. The platform should also include current and evolving state-of-the-art technologies reasonably made available in the commercial marketplace with features beneficial to the public safety community (*e.g.*, increased bandwidth).
- Sufficient signal coverage to ensure reliable operation throughout the service area consistent with typical public safety communications systems (*i.e.*, 99.7 percent or better reliability).
- Sufficient robustness to meet the reliability and performance requirements of public safety. To meet this standard, network specifications must include features such as hardening of transmission facilities and antenna towers to withstand harsh weather and disaster conditions, and backup power sufficient to maintain operations for an extended period of time.
- Sufficient capacity to meet the needs of public safety, particularly during emergency and disaster situations, so that public safety applications are not degraded (*i.e.*, increased blockage rates and/or transmission times or reduced data speeds) during periods of heavy usage. In considering this requirement, we expect the network to employ spectrum efficient techniques, such as frequency reuse and sectorized or adaptive antennas.
- Security and encryption consistent with state-of-the-art technologies.
- A mechanism to automatically prioritize public safety communications over commercial uses on a real-time basis and to assign the highest priority to communications involving safety of life and property and homeland security consistent with the requirements adopted in this Second Report and Order.
- Operational capabilities consistent with features and requirements specified by the Public Safety Broadband Licensee that are typical of current and evolving state-of-the-art public safety systems (such as connection to the PSTN, push-to-talk, one-to-one and one-to-many communications, etc.).
- Operational control of the network by the Public Safety Broadband Licensee to the extent necessary to ensure public safety requirements are met.
- The Public Safety Broadband Licensee shall have the right to determine and approve the specifications of public safety equipment that is used on the network, and the right to purchase its own subscriber equipment from any vendor it chooses, to the extent such specifications and equipment are consistent with reasonable network control requirements established in the NSA.
- A requirement, as explained more fully herein, that the Upper 700 MHz D Block licensee make available to the Public Safety Broadband Licensee at least one handset that would be suitable for public safety use and include an integrated satellite solution capable of operating both on the 700 MHz public safety spectrum and on satellite frequencies.

406. These requirements are to be implemented by the parties through the NSA, which will also include the detailed specifications of the network that the D Block licensee will construct. By allowing the parties to determine specific details, including the technologies that will be used, subject to approval by the Commission, we provide them with flexibility to evaluate the cost and performance of all available solutions while ensuring that the shared wireless broadband network has all the capabilities and attributes needed for a public safety broadband network.

b. Spectrum Use

407. Background. Under Frontline's proposal, the shared network would operate on both the commercial licensee's spectrum and the public safety 700 MHz broadband license spectrum. In its filings on which we sought comment, Frontline proposed that the spectrum from the two licenses would be shared in two ways. First, it proposed that the public/private network would provide commercial services on 10-megahertz of spectrum licensed for commercial use and on the public safety broadband spectrum

on a secondary, preemptible basis.[864] Second, Frontline proposed that the network would provide public safety users with broadband service on the public safety broadband spectrum but also provide public safety agencies with priority access to its commercial spectrum in emergencies.[865] With regard to emergency priority access, Frontline further proposed that the procedures and protocols for such use should be defined in an agreement between the commercial licensee and the national public safety licensee.[866]

408. Prior to Frontline's submission of its proposal, we had sought comment on the issue of commercial use of public safety spectrum on a secondary basis. Specifically, in the *700 MHz Public Safety Ninth Notice*, we sought comment on whether to permit the leasing of the public safety broadband spectrum to commercial providers on a secondary, unconditionally preemptible basis.[867] We noted that Section 337(a)(1) of the Act requires that the 24 megahertz of 700 MHz spectrum be allocated for "public safety services."[868] We also sought comment in the *700 MHz Public Safety Ninth Notice* on whether it would be necessary, in order to allow the commercial use of the public safety spectrum on a secondary basis, to make a specific allocation for such secondary use in the 700 MHz Public Safety Band.[869] In the *700 MHz Further Notice*, we noted that Frontline's proposal was premised on, among other things, our permitting commercial operations in the public safety spectrum on a secondary basis as proposed in the *700 MHz Public Safety Ninth Notice*.[870]

409. Commenters have addressed both aspects of the proposed spectrum sharing by the public/private partnership. With regard to the proposal to allow the commercial licensee in the public/private partnership to use public safety spectrum for commercial operations on a secondary basis, some commenters argue that Section 337 of the Act prohibits the commercial use of public safety spectrum even on a secondary basis.[871] Specifically, several argue that the provision of commercial services in the public safety spectrum on a secondary basis would violate the requirement of Section 337(a)(1) that such spectrum be allocated for "public safety services."[872]

410. In addition, some commenters argue that permitting public safety users to access the 700 MHz commercial spectrum on a priority basis during emergencies would also violate the requirement under Section 337(a)(2) that such spectrum be allocated "for commercial use."[873] These commenters also express concerns involving the implementation of emergency priority access. MetroPCS argues that any system that relies on the implementation of a complex priority scheme during an emergency would not be

---

[864] Frontline *700 MHz Public Safety Ninth Notice* Comments at 7; *see also 700 MHz Further Notice*, 22 FCC Rcd at 8162 ¶ 274.

[865] Frontline *700 MHz Public Safety Ninth Notice* Comments at i.

[866] Frontline Mar. 6 Comments in WT Docket No. 06-150, at 14.

[867] *See 700 MHz Public Safety Ninth Notice*, 21 FCC Rcd at 14848 ¶ 41.

[868] *See id.* at 14849 ¶ 46.

[869] *See id.*

[870] *700 MHz Further Notice*, 22 FCC Rcd at 8161-62 n.553.

[871] CTIA *700 MHz Further Notice* Comments at 19; L-3 *700 MHz Further Notice* Comments at 10; MetroPCS *700 MHz Further Notice* Comments at n.132; NATOA *700 MHz Further Notice* Comments at 15; New York, NY *700 MHz Further Notice* Comments at 5-7; RCC *700 MHz Further Notice* Comments at 20-22. *Cf.* Cyren Call *700 MHz Further Notice* Reply Comments at 28-31 (arguing that Section 337 does not preclude the secondary commercial use of the 700 MHz public safety spectrum); Frontline *700 MHz Further Notice* Reply Comments at 23-27 (arguing that Sections 1 and 301 permit, and Section 337 does not preclude, making public safety spectrum available for commercial use on a secondary basis).

[872] *See* CTIA *700 MHz Further Notice* Comments at 19-20; L-3 *700 MHz Further Notice* Comments at 10; MetroPCS *700 MHz Further Notice* Comments at n.132; NATOA *700 MHz Further Notice* Comments at 15; New York, NY *700 MHz Further Notice* Comments at 5-7; RCC *700 MHz Further Notice* Comments at 20-22.

[873] *See id.* at n.132.

beneficial to public safety.[874] It also argues that preemption of commercial access during times of emergency could result in fatal consequences, and that there is near unanimous agreement that such callers must be able to use their mobile phones to call for help in such situations, such as by dialing 911.[875] Verizon Wireless argues that, instead of adopting the Frontline proposal, the Commission should consider establishing rules for the commercial 700 MHz Band spectrum similar to the Commission's existing Part 64 Priority Access Rules, which permit carriers voluntarily to offer public safety entities priority access to open channels.[876]

411. Other commenters, however, support providing public safety users with priority access to commercial spectrum during emergencies.[877] APCO asserts that the current public safety broadband allocation in the 700 MHz Band is insufficient to address all of public safety's requirements, especially during emergency operations.[878] California supports the proposal, but emphasizes that priority access must be instantaneously available to field users when they choose and that preemption of commercial traffic should not require any hierarchical approval chain.[879] Several commenters raise concerns that the term "emergency" is not sufficiently defined and urge the Commission to provide a more detailed explanation of the term in its rules.[880] APCO asserts that the definition should take into account that "much of what a first responder does on a day to day basis involves an emergency situation."[881] GEOCommand asserts that unconditional access solely as defined by a public safety entity may be too problematic, but that excessively limited access is equally problematic.[882] NPSTC asserts that priority access will be of little or no value if limited to large incidents, that virtually every public safety response is an emergency "to someone" and that the need for access should not be defined by the character of the incident but rather by the need to assist citizens.[883] Finally, California asserts that an exception to traffic preemption should be made for 911 calls and asserts that the NSA should also allow for other exceptions as they arise.[884]

412. Discussion. We permit the Public Safety Broadband Licensee to provide access on a secondary and preemptible basis to this spectrum, pursuant to the spectrum lease specified herein, for the purpose of enabling commercial operations within the band devoted to primary public safety broadband use. The Upper 700 MHz D Block licensee will gain access to this public safety broadband spectrum by means of a spectrum leasing arrangement with the Public Safety Broadband Licensee. We also place additional conditions regarding the use of the D Block spectrum, including a requirement that the D Block licensee provide the Public Safety Broadband Licensee with priority access to the D Block license spectrum during emergencies.

413. We disagree with commenters who assert that the Act prohibits us from adopting a plan facilitating a public/private partnership through a shared use of spectrum between the Public Safety

---

[874] *See id.* at 67.

[875] *See* MetroPCS *700 MHz Further Notice* Comments at 69.

[876] *See* Verizon Wireless *700 MHz Further Notice* Comments at 58; 47 C.F.R. Part 64 App. B.

[877] *See, e.g.*, APCO *700 MHz Further Notice* Comments at 19; California *700 MHz Further Notice* Comments at 6.

[878] *See* APCO *700 MHz Further Notice* Comments at 19.

[879] *See* California *700 MHz Further Notice* Comments at 6.

[880] *See* GEOCommand *700 MHz Further Notice* Comments at 8 (arguing that Frontline proposal leaves the most critical element of the relationship undefined and urges the Commission to consider the precise nature and scope of the term necessary to justify access to E Block spectrum); NATOA *700 MHz Further Notice* Comments at 11.

[881] *See* APCO *700 MHz Further Notice* Comments at 19.

[882] *See* GEOCommand *700 MHz Further Notice* Comments at 9.

[883] *See* NPSTC *700 MHz Further Notice* Comments at 14.

[884] *See* California *700 MHz Further Notice* Comments at 7.

Broadband Licensee and a commercial spectrum lessee.[885] We conclude that Section 337(a)(1) does not prohibit the Public Safety Licensee from entering into the lease for commercial operations, on a limited and preemptible basis as specified herein, of spectrum that is allocated for public safety services. In addition, we find that Section 337(a)(2), which directs us to allocate 36 megahertz "for commercial use," does not prohibit us from requiring the D Block licensee to provide public safety users with priority access to D Block license spectrum in an emergency. Priority service, although provided to public safety, will still be commercial, and will not appreciably impair the D Block licensee's ability to provide commercial services to other parties.

414. *Commercial Operations in Public Safety Spectrum on a Secondary Basis.* We permit the leasing of the Upper 700 MHz Band spectrum currently allocated for public safety services to commercial providers on a secondary, unconditionally preemptible basis. As we explain below, the spectrum leasing arrangement permitted here and the conditions placed on the use of the spectrum are designed to ensure that any commercial use does not undermine the "principal purpose" of the services provided in this band "to protect the safety of life, health, or property," as required by Section 337.[886]

415. We find that authorizing the Public Safety Broadband Licensee to enter into the spectrum leasing arrangement in this band described in detail below is an integral element of the package of rights and responsibilities we establish in this Second Report and Order with respect to the 700 MHz Public/Private Partnership involving the Upper 700 MHz D Block license and the Public Safety Broadband License. The Public Safety Broadband Licensee will be required to lease the public safety spectrum for use by the D Block licensee on a secondary basis pursuant to the requirements set forth in the NSA and established in this Second Report and Order.[887] Thus, under the 700 MHz Public/Private Partnership framework that we are adopting, the D Block licensee will be obligated to construct a broadband network capable of operating on the public safety broadband spectrum for the benefit of the Public Safety Broadband Licensee, and the Public Safety Broadband Licensee will be obligated to permit secondary commercial operations on the public safety broadband spectrum pursuant to the spectrum leasing arrangement.

416. We have determined that commercial operations on a secondary, preemptible basis will maximize the efficient use of the spectrum by permitting full use of the public safety broadband spectrum. Further, providing the D Block licensee with the opportunity to offer commercial services on this spectrum, on a secondary basis, is an integral part of a viable framework for enabling the 700 MHz Public/Private Partnership to finance the construction of a nationwide, interoperable public safety broadband network.[888] Given that this spectrum leasing arrangement will support the build-out of a public safety network operating pursuant to the Public Safety Broadband Licensee's license, and, given the particular role of the Public Safety Broadband Licensee in ensuring that the public/private network established pursuant to the 700 MHz Public/Private Partnership serves the interests of public safety, we conclude that permitting the Public Safety Broadband Licensee to lease its spectrum for use by the D

[885] CTIA *700 MHz Further Notice* Comments at 19; L-3 *700 MHz Further Notice* Comments at 10; MetroPCS *700 MHz Further Notice* Comments at 10; NATOA *700 MHz Further Notice* Comments at 15; New York, NY *700 MHz Further Notice* Comments at 5-7; Verizon Wireless *700 MHz Further Notice* Comments at 53-56; *see also* Sprint Nextel *700 MHz Further Notice* Comments at 8 (urging the Commission to analyze these issues to ensure that a public/private partnership, if adopted, rests on firm legal footing).

[886] 47 U.S.C. § 337(a)(1), (f)(1)(A).

[887] We also require that this spectrum be subleased from the D Block licensee to the Operating Company through a spectrum subleasing arrangement under the Commission's rules. References in this order to the Public Safety Broadband Licensee's spectrum manager leasing arrangement with the D Block licensee also include reference, where appropriate, to this spectrum subleasing arrangement.

[888] Nothing in the Act or our rules prevents public safety entities from receiving service from commercial service providers. *See* Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, WT Docket No. 99-87, *Report and Order and Further Notice of Proposed Rulemaking*, 15 FCC Rcd 22709, 22750 n.232 (2000) (stating that public safety entities, rather than constructing their own systems, may find it more cost-effective to contract out to a commercial service provider).

Block licensee as part of the shared broadband network best serves the public interest. The Public Safety Broadband Licensee is uniquely positioned to maximize the efficiency for public safety purposes of this spectrum and maintain the unfettered use of this spectrum for public safety service.

417. We will require that this spectrum leasing arrangement take the form of a long-term spectrum manager leasing arrangement for the full term of the license.[889] This type of leasing arrangement enables a licensee to accord its spectrum lessee a significant degree of operational autonomy without relinquishing *de facto* control over the licensed spectrum. At the same time, the spectrum lessee remains ultimately responsible for ensuring that the spectrum is used in a manner that complies with the applicable regulatory and statutory requirements. By limiting the D Block licensee's secondary use of the Public Safety Broadband Licensee's spectrum to leased access under a spectrum manager leasing arrangement, subject to the conditions we are placing on the nature of that access, we thus ensure that the Public Safety Broadband Licensee has the regulatory means (and obligation) to preserve the fundamental public safety function of the band. Moreover, the Public Safety Broadband Licensee's ultimate control over the D Block licensee's use of this band, coupled with the operational flexibility accorded the D Block licensee under a spectrum manager leasing arrangement, should provide an appropriate balance between commercial and public safety operations in the public safety broadband spectrum. Specifically, the spectrum manager leasing arrangement permits the D Block licensee to construct a network to serve its business needs, yet preserves the network infrastructure required for primary public safety use in the Public Safety Broadband Licensee's band.

418. As further conditions on the spectrum leasing arrangement authorized here, the D Block licensee's commercial operations in the public safety spectrum must not cause interference to primary users (*i.e.*, public safety users) and must accept interference from primary users at all times.[890] To help ensure that commercial secondary use complies with these limitations, in the public safety broadband spectrum we will require that the network be designed so as to automatically assign priority to public safety users, to the exclusion and/or immediate preemption of any commercial use on a dynamic, real-time priority basis, and that network specifications are sufficient to guarantee that public safety users suffer no harmful interference or interruption or degradation of service due to commercial operations in the public safety broadband spectrum. Commercial service should therefore operate in an effectively "invisible" manner with regard to public safety users.

419. We disagree with commenters who assert that the Act prohibits us from permitting commercial operations on a secondary basis in the 700 MHz public safety spectrum to facilitate the build-out of a public safety network.[891] These commenters construe Section 337(a)(1), which directs the Commission to allocate 24 megahertz of the 700 MHz spectrum "for public safety services,"[892] as requiring such spectrum to be used *exclusively* for public safety services.[893] CTIA, for example, maintains that the Section 337 "expressly forbids" any use of the relevant 24 megahertz for commercial services.[894] The statutory provision, however, includes no such limiting language. It requires neither that the 24 megahertz at issue be allocated exclusively for public safety services nor that it be used only for

---

[889] *See* 47 C.F.R. §§ 1.9010, 1.9020.

[890] *See* Amendment Of Parts 73 And 74 Of The Commission's Rules To Establish Rules For Digital Low Power Television, Television Translator, And Television Booster Stations And To Amend Rules For Digital Class A Television Station, MB 03-185, *Report and Order*, 19 FCC Rcd 22038, ¶ 2 (2004).

[891] CTIA *700 MHz Further Notice* Comments at 19; L-3 *700 MHz Further Notice* Comments at 10; MetroPCS *700 MHz Further Notice* Comments at 10; NATOA *700 MHz Further Notice* Comments at 15; New York, NY *700 MHz Further Notice* Comments at 5-7; Verizon Wireless *700 MHz Further Notice* Comments at 53-56; *see also* Sprint Nextel *700 MHz Further Notice* Comments at 8 (urging the Commission to analyze these issues to ensure that the public/private partnership, if adopted, rests on firm legal footing).

[892] *See* 47 U.S.C. § 337(a)(1).

[893] *See, e.g.*, Verizon Wireless *700 MHz Further Notice* Comments at 53.

[894] *See* CTIA *700 MHz Further Notice* Comments at 20.

such services.[895] Moreover, Section 337(a)(1) confers upon the Commission the authority to allocate 24 megahertz for public safety services "according to the terms and conditions established by the Commission." We construe this phrase as affording us broad discretion to impose conditions on the use of this spectrum to effectuate its optimal use by public safety, and the condition at issue here serves just such a purpose.[896] Namely, the secondary preemptible commercial use condition will harness private sector resources to facilitate the construction of a nationwide interoperable public safety broadband network for use in this spectrum, and the record in this proceeding demonstrates the pressing need for such a network.[897] Furthermore, for purposes of this analysis, it is critical that this spectrum will be used primarily by public safety, and public safety will have the absolute right to preempt *any* commercial traffic on this spectrum. Thus, we conclude that permitting commercial operations in these frequencies through this spectrum leasing arrangement on a secondary preemptible basis pursuant to the plan we adopt here does not violate Section 337(a) and is in fact fully consistent with both the "plain text" and purpose of the statute.

420. In any event, even were we to construe Section 337(a)(1) to require this 24 megahertz of spectrum to be devoted exclusively to the provision of "public safety services," we would reach the same conclusion because the definition of "public safety services" does not foreclose the secondary preemptible commercial use at issue here. The statute flexibly defines "public safety services" as services "the sole or *principal* purpose of which is to protect the safety of life, health, or property,"[898] which suggests that even the public safety licensee might engage in other uses of the spectrum. Authorizing secondary preemptible commercial operations does not impair or materially detract from that statutorily mandated "principal purpose." Indeed, it furthers that purpose, as noted above, by making funds available for the construction of a nationwide broadband network that will greatly benefit public safety users.

421. Nor does Section 337(f)(1)(C), which states that "public safety services" are services that are "not made commercially available to the public by the provider," bar the spectrum leasing arrangement under the requirements and conditions contemplated here. We construe this language to refer to retail wireless operations, rather than to wholesale activities. In particular, we understand the prohibition on "the provider" – in this case, the Public Safety Broadband Licensee – offering services "to the public" to restrict the broad offerings, accessible to the general public, that are the hallmarks of retail wireless offerings. This construction is consistent with Section 337(f)(1)(A) – that the "sole or principal purpose" of "public safety services" is to "protect the safety of life, health, or property"[899] – in that it underscores Congress's determination that public safety should be the primary mission of the public safety licensee (not operating a retail wireless business). The requirement we adopt here that the public safety licensee enter into a wholesale spectrum leasing arrangement for use by the D Block licensee – and *only* the D Block licensee – is a far cry from allowing it to engage in retail operations with respect to

---

[895] *See* Frontline *700 MHz Further Notice* Reply Comments at 25 ("Nothing in Section 337 stands in the way of allowing secondary uses that do not interfere with the 700 MHz block's primary allocation. Not a word of the statute addresses secondary uses, and the Commission regularly allows such uses."). To the extent that we may have previously suggested that Section 337 required that the frequencies in this allocation must be used exclusively for public safety services, *see, e.g.*, *The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010*, First Report and Order and Third Proposed Notice of Rulemaking, 14 FCC Rcd. 152, 183 ¶ 58, we reject such a view for the reasons set forth above.

[896] *See* Frontline *700 MHz Further Notice* Reply Comments at 26 ("Allowing commercial secondary usage is also entirely consistent with the Commission's wide discretion to 'establish terms and conditions' over public safety services under the statute.").

[897] *See id.* at 25 ("[A] public/private partnership to create a nationwide wireless broadband network that allows preemptible secondary commercial uses *expands* the ability of public safety entities to provide 'public safety services.'") (emphasis in original).

[898] 47 U.S.C. § 337(f)(1)(emphasis added).

[899] 47 U.S.C. § 337(f)(1)(A).

services that are made "commercially available to the public" at large.[900]

422. We do not regard this construction of Section 337 as inconsistent in any way with the Commission's conclusion in construing similar language in a different statutory provision. In particular, in the *Non-Accounting Safeguards* proceeding, the Commission interpreted the statutory definition of "telecommunications service" – "the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public"[901] – to encompass both retail and wholesale services.[902] The Commission based that conclusion partly on its reading of yet another statutory provision, Section 251(c)(4), which refers to both "wholesale" and "retail" offerings of telecommunications services,[903] and on the legislative history of the definition of "telecommunications service," which indicated that Congress intended the definition to distinguish common carrier offerings, provided to the public, from private carriage arrangements.[904] We have no basis to conclude, however, that Congress intended to make a similar distinction in requiring that "public safety services" not be "made available to the public by the provider." Congress adopted the definition of "telecommunications service" as part of the Telecommunications Act of 1996,[905] the primary purpose of which was to "open[] all telecommunications markets to competition."[906] Congress enacted Section 337 in 1997 for the very different purpose of directing allocation of the Upper 700 MHz Band, including the allocation of 24 megahertz to public safety. For this reason, we do not think it necessary, or even appropriate, to construe Section 337 on the basis of Congressional intent in enacting the local competition provisions of the 1996 Act.

423. Nonetheless, even if we were to read "not made commercially available to the public" to prohibit common carriage offerings by the public safety licensee, this provision does not bar the lease arrangement at issue here. The spectrum leasing arrangement, and the conditions we place on use of that spectrum, is most akin to private carriage, in that the public safety licensee does not makes services "available to the public" or to such classes of eligible users as to be effectively "available to the public."[907] Under the rules we adopt today, the required lease is a *sui generis* arrangement available only to the D Block licensee according to the prescribed terms of the lease agreement between the parties.[908]

---

[900] We do not use the term "wholesale spectrum leasing arrangement" here to distinguish such a spectrum leasing agreement from any other form of leasing agreement. Rather, this term is simply used to distinguish the arrangement at issue here from the retail operations in which a public safety licensee may not engage.

[901] 47 U.S.C. § 153(46).

[902] Implementation of the Non-Accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934, as Amended, CC Docket No. 96-149, *First Report and Order and Further Notice of Proposed Rulemaking*, 11 FCC Rcd 21905, 22032-34 ¶¶ 263-265 (1996)(*Non-Accounting Safeguards Order*); Second Order on Reconsideration, 12 FCC Rcd 8653, 8670-71 ¶ 33 (1997)(*Non-Accounting Safeguards Reconsideration Order*).

[903] 47 U.S.C. § 251(c)(4)(requiring certain carriers "to offer for resale at wholesale rates any telecommunications service that the carrier provides at retail").

[904] *Non-Accounting Safeguards Order*, 11 FCC Rcd at 22033-34 ¶¶ 264-65; *see also Non-Accounting Safeguards Reconsideration Order*, 12 FCC Rcd at 8670-71 ¶ 33.

[905] Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996 Act)(codified at 47 U.S.C. §§ 151 *et seq.*).

[906] *See* Joint Statement of Managers, S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess. 1 (1996).

[907] *See National Ass'n of Regulatory Util. Comm'rs v. FCC*, 525 F.2d 630 (D.C. Cir.), *cert. denied*, 425 U.S. 992 (1976)(*NARUC*)(defining common carrier as an entity that holds itself out to serve all potential users indifferently or is required by law to serve all potential users indifferently); *see also* 47 U.S.C. § 332(d)(1)(an entity is a commercial mobile service provider and regulated as a common carrier if it provides a mobile service "for a profit and makes interconnected service available (A) to the public or (B) to such classes of eligible users as to be effectively available to a substantial portion of the public").

[908] *See NARUC*, 525 F.2d at 641 (essential to the common carrier concept is that the carrier undertakes to carry for all people indifferently), 642 ("The common law requirement of holding oneself out to serve the public indiscriminately draws such a logical and sensible line between the two types [common and private] of carriers.").

This limitation ensures that the Public Safety Broadband Licensee focuses its efforts on public safety, rather than on commercial operations, while nonetheless providing a source of financing that enables it to fulfill the statutory goal of enhancing public safety. We conclude, therefore, that allowing the public safety licensee to enter into a private carriage arrangement in which it leases public safety spectrum for commercial use by the D Block licensee on a secondary basis presents no conflict with Section 337(f)(1)(C).

424. We find that, in addition to being consistent with the text of Sections 337(a)(1) and 337(f), this arrangement is consistent with the intentions of Congress to provide 24 megahertz of spectrum for public safety use. The secondary use will facilitate the construction of the network that will provide public safety services while in no way impairing or limiting public safety services in the spectrum. Denying public safety the benefits of secondary use would thus work against the intent of Congress by denying public safety a means of efficiently and effectively making use of their spectrum.[909] We also note that we have taken additional measures to ensure that the authorization for commercial use on a secondary basis in these frequencies does not in practice either hinder or degrade the public safety services in the spectrum. For example, we require safeguards adequate to ensure that the primary public safety services are protected from interference on an automatic basis, and we prohibit the D Block licensee from discontinuing or degrading service to public safety users. Accordingly, both the text and the statutory purpose argue for allowing this secondary use.

425. Our decision to permit the Public Safety Broadband Licensee to provide the D Block licensee secondary and preemptible access to the 700 MHz public safety broadband spectrum is an integral element of the unique package of rights and responsibilities of the public/private partnership established in this Second Report and Order. Specifically, the access that we provide to the D Block licensee is based on a number of factors specific to this partnership, including: (1) the complementary requirement that the D Block licensee provide the Public Safety Broadband Licensee with priority access to the D Block license spectrum during emergencies, (2) the incorporation of the requirements set forth in this Second Report and Order as well as the terms and conditions of the NSA into the leasing arrangement, (3) the provision of a means to enable private sector resources via the 700 MHz Public/Private Partnership to finance the construction of a nationwide, interoperable public safety broadband network, in light of how the record in this proceeding demonstrates the pressing need for such a network, and (4) the mandates that the network be designed so as to assign priority to public safety users automatically, to the exclusion and/or immediate preemption of any commercial use on a dynamic, real-time priority basis, and that network specifications be sufficient to guarantee that public safety users suffer no harmful interference or interruption or degradation of service. We thus do not intend to permit any other leasing arrangements involving the 700 MHz public safety spectrum outside of the unique circumstances of the public/private partnership and the specific conditions we place upon the leasing arrangement between the Public Safety Broadband Licensee and D Block licensee.

426. *Priority Public Safety Access to Commercial Spectrum During Emergencies.* As part of its responsibilities in managing the shared wireless broadband network, we require the D Block licensee to provide the Public Safety Broadband Licensee with priority access, during emergencies, to the spectrum associated with the D Block license (in addition to the 700 MHz public safety broadband spectrum). In determining what constitutes an emergency, we agree with Frontline that the definition of an "emergency" for this purpose should be left to negotiation between the parties.[910] The potential disruption of commercial service in the D Block license, while wholly appropriate in an emergency

[909] *See* Cyren Call *700 MHz Further Notice* Reply Comments at 30 (arguing that "it cannot have been the intent of Congress to provide the Public Safety community with an allocation of spectrum and yet deprive it of the means to make use of that spectrum even if those means have been developed and embraced by Public Safety and the FCC"); NPSTC *700 MHz Further Notice* Reply Comments at 5 (asserting that it would be "incongruous that a provision, directed towards ensuring a public safety allocation in the 700 MHz Band, would preclude effective use by public safety").

[910] Frontline Mar. 6 Comments in WT Docket No. 06-150, at 14.

situation, must nonetheless be limited to the most serious occasions.[911] Otherwise the commercial viability of the 700 MHz Public/Private Partnership could be jeopardized. To balance these competing concerns, we require the parties to define "emergency" for purposes of priority access to D Block license spectrum as part of the NSA.

427. We expect that the terms of the NSA will ensure cooperation by the D Block licensee and the Public Safety Broadband Licensee when they are called upon to coordinate priority access to D Block license spectrum for first responders facing an emergency. Nevertheless, we recognize that there may be occasions when the parties are unable to agree that an emergency situation requires priority access to the D Block license spectrum, especially in circumstances that do not clearly fall within the definition of "emergency" negotiated by the parties in the NSA. On these occasions, the Public Safety Broadband Licensee may request that the Commission declare, on an expedited basis, that particular circumstances warrant emergency priority access. In order to facilitate this process and ensure a prompt response, we delegate authority to the Defense Commissioner to decide these requests and amend Section 0.181 of our Rules to reflect this new duty.

428. We emphasize that this priority access to D Block license spectrum is intended to ensure that public safety entities have sufficient bandwidth for their emergency communication needs. Under emergency conditions, all public safety entities in the affected area will have real-time access, as needed, to all D Block license spectrum on a priority basis over commercial traffic and will preempt ongoing commercial traffic to the extent necessary. In this regard, we require the D Block licensee to provide appropriate warnings to its commercial customers about the potential interruption of their service during emergencies due to preemption by public safety users. The NSA should address how the D Block licensee will satisfy this obligation, including, for example, encouraging the use of devices that can access spectrum other than the D Block. The NSA must also recognize that emergency 911 calls from commercial users also play a critical role in safeguarding public safety and should be accorded some level of priority, which may be lower priority than public safety communications but will not be subject to interruption of ongoing calls by public safety users and will have priority over all other commercial uses.

429. We find that Section 337(a)(2), which directs us to allocate 36 megahertz "for commercial use," does not prohibit us from requiring the D Block licensee to provide public safety users with priority access to D Block license spectrum in an emergency. The D Block license spectrum is still allocated for commercial use, will be used primarily to provide commercial services to the public at large, and will be assigned by competitive bidding pursuant to Section 309(j) of the Act. Although in an emergency, the priority access to network services is provided to public safety users, this service itself is a commercial service that will be provided to public safety for a fee, albeit one that is not made available to the general public and is provided according to terms specified in regulation. Further, because emergency access to commercial spectrum would be triggered only in rare circumstances, it should not hinder the licensee from operating a successful commercial service. We therefore conclude that it is not inconsistent with Congressional intent that this spectrum be used by public safety in times of emergency.

430. We also find that the D Block license is consistent with our statutory mandate to assign commercial 700 MHz Band spectrum by competitive bidding pursuant to Section 309(j) of the Act. The conditions associated with the D Block license do not alter that requirement or prevent us from offering the D Block at auction. The Commission has stated that "the relevant statutory prerequisite [for competitive bidding], as set forth in Section 309(j) of the Budget Act, is that mutually exclusive applications are accepted for filing. This standard does not require that the relevant spectrum be completely unoccupied by other services."[912] We will accept mutually exclusive applications for filing

[911] These limitations shall apply to the emergency access we require here. Although we mandate that the D Block licensee allow the Public Safety Broadband Licensee to access the D Block license spectrum during emergencies, nothing in this Second Report and Order shall be construed as prohibiting the D Block licensee from otherwise offering its commercial services to the Public Safety Broadband Licensee.

[912] Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, PR Docket No. 93-61, 10 FCC Rcd 4695, ¶ 55 (1995).

with regard to the D Block spectrum, which will be subject to auction and will be used primarily to provide commercial services to the public at large.

431. *Secondary Markets Rules.* In permitting the Public Safety Broadband Licensee to enter into this spectrum leasing arrangement subject to the conditions we set out in this order, we waive the Commission's spectrum leasing policies and rules insofar as they prohibit public safety licensees from entering into spectrum leasing arrangements for commercial operations.[913] We determine, consistent with our proposal in the *700 MHz Public Safety Ninth Notice*,[914] that permitting commercial use of public safety spectrum on a secondary basis on an unconditionally interruptible basis, as part of the 700 MHz Public/Private Partnership for developing an interoperable network for public safety use, would serve the public interest.

c. Performance Requirements

432. Background. In the *700 MHz Further Notice*, we sought comment on Frontline's proposal that the commercial licensee responsible for constructing the shared network 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.[915] With regard to Alaska, the *700 MHz Further Notice* sought comment on Frontline's proposal that the licensee be required to provide coverage to all Alaskan cities of 10,000 or more within four years of the 700 MHz auction clearing date.[916]

433. In comments to the *700 MHz Further Notice*, Frontline proposes that for the continental United States and Hawaii the D Block licensee be required to cover: 75 percent of the U.S. population (or equivalent geographic coverage) within four years; 95 percent of the U.S. population (or equivalent geographic coverage) within seven years; and 99 percent of the U.S. population (or equivalent geographic coverage) within ten years.[917] With respect to Alaska, Frontline proposes that the D Block licensee be legally obligated to providing coverage to all Alaskan cities of 5,000 or more by the end of the fourth year after construction begins, and thereafter the D Block licensee should be required to work with the Alaska Land Mobile Project to formulate a plan appropriate to Alaska's unique coverage challenges.[918] Frontline states that these performance requirements should take effect on the later of either the date the D Block license is granted or the statutorily imposed DTV transition date of February 17, 2009.[919]

434. In its comments, NPSTC states that it strongly encourages the Commission to mandate

---

[913] *See Secondary Markets Second Report and Order*, 19 FCC at 17529-31 ¶¶ 53-56.

[914] *700 MHz Public Safety Ninth Notice*, 21 FCC Rcd at 14849 ¶ 44.

[915] *700 MHz Further Notice*, 22 FCC Rcd at 8162 ¶ 274.

[916] *Id.* Frontline Mar. 26 *Ex Parte*, WT Docket No. 06-150, Attach. at 3-4 (proposed 47 C.F.R. § 27.14). Frontline specified that the "auction clearing date" "refer[ed] to the Analog Spectrum Recovery Firm Deadline provided for in Section 3002 of the Deficit Reduction Act of 2005." *Id.*

[917] Frontline *700 MHz Further Notice* Comments at 40-41; *see also* Frontline *700 MHz Further Notice* Reply Comments at 19. Frontline stated that, if the Commission chooses a geographic based build-out requirement, the obligation should include coverage of Indian lands, but not federal lands. Frontline also indicated that, if the Commission chooses a population-based coverage requirement, the D Block licensee should be required to work with the adjacent public safety band licensee where public safety coverage needs might diverge from the goal of maximizing population coverage. *See* Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229 at 7-8.

[918] Frontline *700 MHz Further Notice* Comments at 41. We note that, in its filings prior to the *700 MHz Further Notice*, Frontline's proposed build-out rule for Alaska would have covered only Alaskan cities of 10,000 or more by the end of the fourth year. *See* Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229 at 8.

[919] *See* Frontline *700 MHz Further Notice* Comments at 40-41; *see also* Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 96-86 and 06-150 and PS Docket No. 06-229 (proposed rule modifications).

minimum coverage requirements of 99.3 percent of the population at year 10.[920] NPSTC states that its 10-year population-based benchmark proposal would provide coverage to every county with a population density of five or more persons per square mile. NPSTC also thinks that it is important for the Commission to impose interim coverage benchmarks for the fourth and seventh years. NPSTC proposes interim benchmarks of 25 percent of population within four years and 95 percent of population within seven years.[921] In its July 6, 2007 *Ex Parte* filing, NPSTC revises its first interim benchmark to 75 percent of population within four years and maintains it second and third benchmark proposals of 95 percent of population within seven years and 99.3 percent of population in 10 years.[922] NPSTC also states in its *Ex Parte* that it would support additional requirements to ensure coverage for isolated population centers, and anticipates the use of satellite technologies to provide coverage to remote areas.

435. APCO, the International Association of Chiefs of Police (IACP), the International Association of Fire Chiefs (IAFC), and California state that they support the population-based benchmark proposal outlined in NPSTC's comments.[923] APCO, IACP and IAFC also call for coverage for major highways and interstates, as well as "such additional areas that are necessary to provide coverage for all incorporated communities with a population in excess of 3,000, unless the national public safety license and commercial licensee jointly determine, in consultation with a relevant community, that such additional coverage will not provide significant public benefit."[924] Cyren Call proposes 50 percent population coverage at four years, 80 percent population coverage at seven years, and 99 percent population coverage at 10 years.[925] RCC argues that the Commission should impose a geographic coverage requirement because public safety has coverage needs in low or zero population areas.[926] NENA argues that the Commission should impose a mix of population- and geographic-based performance requirements.[927] AT&T argues that in addition to a population- or geographic-based build-out requirement, the Commission should impose a public safety loading or participation requirement.[928]

436. Embarq argues that the Commission should adopt stringent build-out requirements in both urban and rural markets.[929] Northrop Grumman urges the Commission to permit flexibility to allow interim deployment of local or regional broadband networks by public safety entities in areas where the national broadband network build out will not occur in the near term.[930] Region 9 (Florida), Region 14 (Indiana), and Region 16 (Kansas) express concern that the proposed build-out schedule would result in long delays before public safety will be able to access the system, especially in rural areas.[931] With respect to the date when the performance requirements should begin to take effect, Embarq notes that any build-out requirements that the Commission imposes must recognize that band clearing will not occur

---

[920] NPSTC *700 MHz Further Notice* Comments at 12-13.

[921] *Id.*

[922] NPSTC *700 MHz Further Notice Ex Parte* at 2 (filed July 6, 2007).

[923] APCO *700 MHz Further Notice* Comments at 18; California *700 MHz Further Notice* Reply Comments at 4; NPSTC *700 MHz Further Notice* Comments at 12; APCO, IACP and IAFC *700 MHz Further Notice Ex Parte* (filed July 13, 2007); *see also* TIA *700 MHz Further Notice* Comments at 4-5.

[924] APCO, IACP and IAFC *700 MHz Further Notice Ex Parte* (filed July 13, 2007).

[925] Cyren Call *700 MHz Further Notice* Comments at 21.

[926] RCC *700 MHz Further Notice* Comments at 60; *see also* MetroPCS *700 MHz Further Notice* Comments at 64; MetroPCS *700 MHz Further Notice* Reply Comments at 49.

[927] NENA *700 MHz Further Notice* Comments at 4.

[928] AT&T *700 MHz Further Notice* Reply Comments at 24.

[929] Embarq *700 MHz Further Notice* Comments at 5.

[930] Northrop Grumman *700 MHz Further Notice* Comments at 5.

[931] Region 9 (Florida) *700 MHz Further Notice* Comments at 3; Region 14 (Indiana) *700 MHz Further Notice* Comments at 2; Region 16 (Kansas) *700 MHz Further Notice* Comments at 3.

until the DTV transition is completed on February 17, 2009.[932]

437. Discussion. We adopt specific performance requirements that include three population-based build-out benchmarks that cover the nationwide D Block license area.[933] Specifically, we will require the D Block licensee to provide signal coverage and offer service to at least 75 percent of the population of the nationwide D Block license area by the end of the fourth year, 95 percent of the population of the nationwide license area by the end of the seventh year, and 99.3 percent of the population of the nationwide license area by the end of the tenth year. To meet these requirements, the D Block licensee must use the most recently available U.S. Census Data. We conclude that the build-out requirements we impose will ensure that public safety needs are met.

438. While commercial providers typically focus exclusively on building out high population areas, we recognize that the needs of first responders are also important in smaller towns and rural areas. In order to ensure that less populous areas are not neglected in the D Block licensee's build-out efforts, we adopt certain additional measures to encourage coverage in those areas.[934] Accordingly, as discussed elsewhere, we require that the D Block licensee meet our initial population benchmarks based on a build-out schedule specified in the NSA consistent with the public safety needs.[935] We also require the D Block licensee to offer at least one handset suitable for public safety use that includes an integrated satellite solution pursuant to the terms, conditions, and timeframes set forth in the NSA. These additional requirements will facilitate coverage to rural and zero population areas if the public safety users need such coverage.[936] Imposing specific build-out requirements through the NSA provisions will ensure that the D Block licensee's performance requirements are responsive to the public safety needs.

439. Our three population-based construction benchmarks will take effect beginning on February 17, 2009.[937] This is the statutorily imposed DTV transition date and is the same date that build-out obligations for the other unauctioned commercial 700 MHz Band licensees begin to take effect.[938] Thus, our four, seven, and ten year construction benchmarks for the D Block licensee will be calculated as starting from February 17, 2009. Use of this date provides regulatory parity and it recognizes that the DTV transition will not be completed until this date.[939] As a result, using the February 17, 2009 date will provide regulatory certainty, promote build-out of the shared network associated with the Public Safety Broadband License, and foster development of the public safety broadband network. We note that the D Block licensee may begin constructing its system prior to February 17, 2009, and may begin operating its system prior to that date so long as it provides appropriate interference protection to incumbent co-channel and adjacent channel broadcasters.[940]

---

[932] Embarq *700 MHz Further Notice* Comments at 5 n.3.

[933] The nationwide D Block license area is composed of the contiguous 48 states, Alaska, Hawaii, the Gulf of Mexico, and the U.S. territories.

[934] *See* NPSTC *700 MHz Further Notice Ex Parte* at 2 (filed July 6, 2007) (requesting that in addition to three population-based build-out benchmarks, the Commission should also adopt certain additional requirements to ensure coverage to isolated population centers).

[935] *See* "Network Sharing Agreement (NSA) and Mandatory Provisions," *supra.*

[936] Given these measures, the stringency of our population-based requirements, and the requirement we impose elsewhere that the build-out schedule established in the NSA may not satisfy the initial benchmarks exclusively through build-out of high population areas, we do not impose any additional requirements with regard to build-out in Alaska specifically.

[937] As discussed elsewhere, we adopt that the D Block license term must not exceed 10 years from February 17, 2009.

[938] *See 700 MHz Report and Order*, 22 FCC Rcd at 8095 ¶ 82.

[939] *See* Mid-Size ILECs *700 MHz Further Notice* Comments at 5 n.3.

[940] Such interference protection will be provided through compliance with the provisions of Section 27.60 of the Commission's rules. 47 C.F.R. § 27.60. Furthermore, certain B Block licensees will continue to be authorized to operate in the 762-764 and 792-794 MHz bands, which overlap portions of the 758-763 and 788-793 MHz D blocks. (continued....)

440. The Commission will apply the three population-based construction benchmarks over the nationwide D Block license area. Accordingly, the D Block licensee must employ a signal level sufficient to provide adequate service to the relevant percentage of the population over the nationwide D Block license area.[941] Moreover, we require that the network and signal levels employed to meet these benchmarks be adequate for public safety use, as defined in the Shared Wireless Broadband Network sub-section herein and further defined by the NSA, and that the services made available be appropriate for public safety entities in those areas. In particular, as discussed below, we require as a mandatory provision of the NSA that the D Block licensee and Public Safety Broadband Licensee negotiate inclusion into the build-out schedule coverage of major highways and interstates, as well as incorporated communities with a population in excess of 3,000, as suggested by APCO, IACP and IAFC.[942] In addition, to the extent that the D Block licensee chooses to provide commercial services to population levels in excess of the relevant benchmarks, the D Block licensee will be required to make the same level of service available to public safety entities.

441. The three population-based construction benchmarks that we adopt for the D Block licensee are clear, provide specific deadlines and quantifiable levels of service and, as a result, will provide the D Block licensee with regulatory certainty regarding the applicable construction requirements. We agree with those commenters who stress that the build-out requirements for the D Block licensee must be stringent and unambiguous.[943] The requirements that we are adopting are more stringent than those that we are imposing on other 700 MHz commercial licensees and are consistent with our goal of developing a nationwide broadband public safety network. In addition, use of population-based benchmarks is consistent with public safety comments, and ultimately the national interoperable broadband public safety network will be built to serve the public safety needs of over 99 percent of the population.[944]

442. Moreover, by adopting interim benchmarks, we ensure that the D Block licensee is in a position to begin providing service to the Public Safety Broadband Licensee well in advance of the end of its license term. We also provide sufficient time for new advanced technologies to develop and be placed in service by the D Block licensee by setting the first benchmark at four years. These benchmarks for the D Block licensee balance the need to quickly develop the public safety communication system with the need to allow sufficient time for new and innovative wireless broadband technologies to develop. Our benchmarks, therefore, are consistent with our goal of establishing a national interoperable public safety network that will provide state-of-the-art service to the Public Safety Broadband Licensee.

443. In certain limited circumstances, we will permit the D Block licensee to modify these population-based construction benchmarks where the D Block licensee and the Public Safety Broadband Licensee reach agreement and the full Commission gives its prior approval for a modification. This approach will allow a certain limited degree of flexibility to meet commercial and public safety needs where those needs may deviate from our adopted construction benchmarks. As with other commercial 700 MHz Band licensees, the D Block licensee will be required to demonstrate compliance with our

(Continued from previous page) ———————————
The D Block licensee will therefore be required to provide appropriate co-channel protection to those B Block licensees by limiting its base station field strength signal levels to no greater than 40 dBu at the B Block licensees' geographic borders.

[941] *See* NENA *700 MHz Further Notice* Comments at 3.

[942] APCO, IACP and IAFC *700 MHz Further Notice Ex Parte* (filed July 13, 2007).

[943] *See* APCO *700 MHz Further Notice* Comments at 18; Cyren Call *700 MHz Further Notice* Comments at 20; Embarq *700 MHz Further Notice* Comments at 5; Northrop Grumman *700 MHz Further Notice* Comments at 5; NPSTC *700 MHz Further Notice* Comments at 12; RCC *700 MHz Further Notice* Comments at 60; TIA *700 MHz Further Notice* Comments at 4; Union *700 MHz Further Notice* Comments at 16.

[944] *See, e.g.*, APCO *700 MHz Further Notice* Comments at 18; Embarq *700 MHz Further Notice* Comments at 5; MetroPCS *700 MHz Further Notice* Comments at 64; NENA *700 MHz Further Notice* Comments at 4; NPSTC *700 MHz Further Notice* Comments at 12; RCC *700 MHz Further Notice* Comments at 60; California *700 MHz Further Notice* Reply Comments at 4.

adopted benchmarks by filing with the Commission within 15 days of passage of the relevant benchmarks a construction notification comprised of maps and other supporting documents certifying that they have met our performance requirements.[945] The construction notification, including the coverage maps and supporting documents, must be truthful and accurate and not omit material information that is necessary for the Commission to make a determination of compliance with our performance requirements.[946] However, unlike the other commercial licenses and because of the nature of the partnership established herein, the D Block licensee will not be subject to a "keep-what-you-use" rule. Rather, the Commission will strictly enforce these build-out requirements and, if the D Block licensee fails to meet a construction benchmark, the Commission may cancel its license, depending on the circumstances.[947]

d. Network Sharing Agreement (NSA) and Mandatory Provisions

444. Background. Commenters responding to our request for comment on the Frontline proposal agree that the details of any public/private partnership should be set forth in a network sharing agreement, but they disagree on the extent to which these details should also be specified in our rules as opposed to being left to negotiation.

445. In its comments, Frontline argues that the Commission should establish a "regulatory framework" that leaves most details, including the rates that the commercial licensee could charge, to be worked out in negotiation, and it argues that its proposed rules provide a framework with an appropriate level of specificity.[948] Other commenters argue that the Frontline proposal is not sufficiently specific, either because it leaves public safety vulnerable to an agreement with unreasonable terms or rates or because it fails to give sufficient notice to bidders of their prospective obligations as the commercial licensee.[949] Commenters also present varied suggestions for the elements that the parties should be required to address in a network sharing agreement.[950] At the same time, some commenters also agree with Frontline that the rules should not be too specific.[951]

446. Discussion. We establish that the relationship between the Public Safety Broadband Licensee and the D Block licensee will be governed by the Network Sharing Agreement (NSA) to be negotiated by the parties and such other separate agreements as the Commission may require or allow, and we provide that compliance with the terms of the NSA shall be a regulatory condition of the D Block license. Breach of this licensing condition may, at the determination of the Commission, result in remedies including, but not limited to, cancellation and subsequent award of the license.[952] Elsewhere in

---

[945] *See* 47 C.F.R. § 1.946(d) ("The notification must be filed with Commission within 15 days of the expiration of the applicable construction or coverage period.").

[946] *See, e.g.*, 47 C.F. R. §1.17 (Truthful and accurate statements to the Commission); 47 C.F.R. § 1.917 ("Willful false statements made therein, however, are punishable by fine and imprisonment, 18 U.S.C. 1001, and by appropriate administrative sanctions, including revocation of station license pursuant to 312(a)(1) of the Communications Act of 1934, as amended.").

[947] Below we discuss conditions, requirements, and procedures that are intended to prevent or address breaches of obligations by the D Block licensee under either the Commission's rules or the NSA.

[948] *See* Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229, at 6-8.

[949] *See, e.g.*, Alltel *700 MHz Further Notice* Comments at 6-7.

[950] *See, e.g.*, AT&T *700 MHz Further Notice* Comments at 13 (to give bidders greater clarity, adoption of Frontline proposal should include "specification of the primary terms and conditions that would have to be part of a Network Service Agreement . . . as well as penalties or sanctions to be imposed for failure to meet these terms and conditions."); Cyren Call *700 MHz Further Notice* Comments at 22 (listing 17 elements to be included in NSA).

[951] *See* Cyren Call *700 MHz Further Notice* Comments at n.22 (overly specific rules would "require potentially costly and time-consuming waiver requests should the parties agree to an arrangement that is not contemplated expressly in the FCC's regulations.").

[952] *See also* 47 C.F.R. §§ 1.903(b) ("The holding of an authorization does not create any rights beyond the terms, conditions and period specified in the authorization."), 1.945(e) ("The FCC may grant applications . . .subject to conditions other than those normally applied to authorizations of the same type.").

this Second Report and Order, we also establish certain specific rules to govern the process for cancellation and re-awarding of the D Block license to ensure that there is no discontinuation of service to public safety entities. We also identify elsewhere the potential remedies should the Public Safety Broadband Licensee fail in a substantial way to meet its obligations under the NSA or any of the Commission's rules or requirements under this Second Report and Order.

447. We require all the parties to negotiate in good faith,[953] and we find that many of the details of their agreement are appropriately left to them to negotiate and reach agreement on (subject to ultimate Commission approval of the NSA). In the discussion that follows, however, we identify certain elements that we require the parties to address in the NSA. Primarily, we require the parties to incorporate the rights and responsibilities governing the Public/Private Partnership that we have enumerated and discussed in this Second Report and Order. We also require the NSA to include or address certain additional terms and subjects, however. These terms and subjects, together with the rules that we have detailed elsewhere, will ensure that the Public/Private Partnership serves the public interest. In addition, it will help potential bidders on the D Block license in understanding their obligations prior to auction, and will assist the parties in reaching agreement on the NSA.

448. *Rights and Obligations Under the Public/Private Partnership.* The NSA must incorporate all of the substantive rights and obligations of the parties that we have established in this Second Report and Order that are relevant to the Public/Private Partnership. Thus, for example, the NSA must incorporate the mandatory network specifications we have established elsewhere in this Second Report and Order, including the technical specifications, terms, and conditions that will ensure that public safety users are provided priority access to public safety broadband spectrum on a dynamic, real-time basis. Once the NSA is approved by the Commission and executed by the parties,[954] assuming all other licensing requirements are met, the Commission will grant the D Block license to the winning bidder and compliance with the terms and conditions of the NSA will be license conditions for both the D Block license and the Public Safety Broadband License.[955] As discussed elsewhere, we require the parties to submit an executed NSA within 10 business days of the Commission's approval of the agreement, and we provide that the D Block license will not be granted until such submission.

449. *Term of Agreement.* The NSA must have a term not to exceed 10 years from February 17, 2009, which coincides with the term of the D Block license established elsewhere in this Second Report and Order. At the conclusion of the initial, and subsequent, term of the agreement, the NSA may be renewed along with the D Block license, subject to Commission approval. We find it appropriate to ensure that consideration of whether to renew the D Block license and whether to renew or modify the NSA whose performance is a condition of that license should occur at the same time.

450. *Service Fees.* We find that all service fees for public safety service should be specified in the NSA, including any applicable fees for normal network service and fees for priority access to the D Block in an emergency.[956] We find that the parties should be left to negotiate reasonable rates in good faith, taking into account all appropriate factors, including but not limited to the public/private nature of the partnership. We expect, however, that the parties will negotiate a fee structure for priority access to the D Block in an emergency that will protect public safety users from incurring unforeseen (and unbudgeted) payment obligations in the event that a serious emergency necessitates preemption for a sustained period. We also encourage the parties to negotiate a fee agreement that incorporates financial incentives for the commercial licensee based on the number of public safety entities and localities that subscribe to the service.

---

[953] As discussed elsewhere, the Public Safety Broadband Licensee has the responsibility to negotiate an NSA with the winning bidder on the D Block license for broadband service in the 700 MHz public safety broadband spectrum.

[954] All of the parties, including the winning bidder of the D Block license, the bankruptcy-remote entity to be the D Block licensee, the Network Assets Holder, and the Operating Company, must execute the NSA.

[955] Except as specified herein, current rules and remedies under the Commission's general rules regarding violation of license terms and conditions would continue to apply.

[956] Frontline *700 MHz Public Safety Ninth Notice* Comments at 27-28.

451. We note that, for the negotiation of reasonable rates, typical commercial rates for analogous services may be useful as a guide.[957] We believe, however, that the negotiated rates will in fact be lower than typical commercial rates for analogous services. One of the anticipated benefits that has persuaded us to establish a D Block license is that only a small portion, if any, of the initial construction costs will be recovered through public safety charges.[958] Further, we expect that fees will be such that public safety entities are able to afford the services that they require for their public safety functions.

452. We emphasize that the entity winning the D Block license is accepting a critical public responsibility, providing 700 MHz broadband network service to the nation's local and state public safety entities.[959] Therefore, when negotiating fees, we expect that the D Block licensee will provide public safety with the terms that will best serve the public interest goals established in this Second Report and Order regarding the public/private partnership. Further, we have established various remedies available to resolve disputes over NSA terms, and that, if necessary, we can exercise one of these options to ensure that fees charged are reasonable.

453. *Detailed Build-Out Schedule.* The NSA must include a detailed build-out schedule that is consistent with the mandatory national build-out and performance benchmarks that we have established for the D Block licensee elsewhere in this Second Report and Order. We expect the NSA to identify the specific areas of the country that will be built out by each of the construction deadlines that we have established. While commercial providers typically focus on population centers first, the needs of first responders are also important in less populous areas. Because we must ensure that smaller towns and rural areas are not neglected in the D Block licensee's build-out efforts, we require the D Block licensee to meet our initial population benchmarks by not exclusively concentrating on building out high population areas. In this regard, we agree with public safety commenters to the extent that we require the parties to include in the NSA coverage for major highways and interstates, as well as such additional areas that are necessary to provide coverage for all incorporated communities with a population in excess of 3,000, unless the Public Safety Broadband Licensee and the D Block licensee jointly determine, in consultation with a relevant community, that such additional coverage will not provide significant public benefit. We also require an estimated cost for each specified area of the build-out, which will assist us in efforts to ensure that the build-out schedule is achieved.

454. *Modifications to the NSA.* We obligate the parties to act in good faith in all dealings with each other and to abide by the terms of the agreement. The NSA must specify that any major modifications to the terms of the NSA, related agreements or documents, or such other agreements as the Commission may require or allow, require not only the agreement of the parties, but also prior Commission approval. All other modifications require prior approval by the Chiefs of the Wireless Bureau and the Public Safety and Homeland Security Bureau on delegated authority.

e. License Term and Renewal Expectancy for the Public/Private Partnership

455. Background. In the *700 MHz Report and Order*, we adopted a 10 year license term for initial authorization in the 700 MHz Commercial Service Band, subject to a subsequent renewal expectancy of 10 years.[960] In the *700 MHz Further Notice*, we noted that Frontline proposed that the term of the D Block license would be for 15 years, and would be subject to a renewal expectancy upon the

[957] Frontline *700 MHz Further Notice* Comments at 46.

[958] For example, Frontline's original proposal emphasized that its network service fees on the Public Safety Broadband Licensee for managing, operating, and upgrading the network "would be much lower than the public safety spectrum usage fee under the *700 MHz Public Safety Ninth Notice*'s proposal because, under [Frontline's proposal,] public safety would not be funding the up-front costs of constructing the nationwide infrastructure...." Frontline *700 MHz Public Safety Ninth Notice* Comments at 27.

[959] *See* NPSTC *700 MHz Further Notice* Reply Comments at 6 ("The E Block licensee should view its obligations to the public safety network as a trust responsibility that the Commission will oversee and enforce.").

[960] *700 MHz Report and Order*, 22 FCC Rcd at 8092-94 ¶¶ 73-77, 8095-96 ¶¶ 82-84.

completion of "substantial service."[961] Frontline contends that given the aggressive build-out requirements for the license and the size of the investments required, a substantial license term is appropriate, particularly since a shorter license term could substantially deter auction participation.[962]

456. In response to the *700 MHz Further Notice*, NENA comments that it would support a 10-year license term, coinciding with the substantial completion of the proposed build-out requirements.[963] NENA also argues that the licensee's success in meeting its build-out requirements should be a substantial factor in any decision to renew the national D Block license.[964] Regarding the renewal criteria, Cyren Call suggests that, as part of the Commission's new renewal procedures for the D Block license, the Commission solicit the viewpoints of the Public Safety Broadband Licensee and Public Safety network users.[965] Cyren Call argues that doing so would provide an additional source of motivation for the commercial operator to take steps beyond those required for mere minimum satisfaction of its contractual obligation.[966]

457. Discussion. Consistent with the decision made for other commercial licensees in the *700 MHz Report and Order*, we decide that a term not to exceed 10 years from February 17, 2009, should be used for initial authorization in the D Block license. The D Block license would be auctioned as a single, nationwide license to provide for commercial service in the "D Block," and to build and operate a joint broadband public safety and commercial network for public safety use. Considering the specific build-out requirements adopted for this license, we find that a 10-year license term is appropriate to secure the long-term financial commitment and the reliable public safety services. It will provide regulatory parity by establishing the same license term for the all 700 MHz licensees, and we find that Frontline has provided no persuasive reason to grant the D Block licensee a term 5 years longer than other commercial licensees. In particular, we do not believe that the 10 year term will have a significantly different impact on bidding than a 15 year term.

458. At the end of the 10 year term, the D Block licensee will be allowed to apply for license renewal, although its renewal will be subject to its success in meeting the material requirements set forth in the NSA as well as all other license conditions, including meeting the performance benchmark requirements. Because the initial NSA term will expire at the same time, the D Block licensee must also file a renewed or modified NSA for Commission approval at the time of its license renewal application. Given these detailed license renewal requirements, we decline to impose a separate substantial service showing. Considering the public safety community's concern over the success of the D Block license, we believe that the Commission's new renewal procedure for this band should motivate the commercial operator to provide service to public safety users at a level and quality beyond the minimum necessary to satisfy its obligations under the NSA.[967]

459. The material requirements set forth in the NSA, as discussed elsewhere, are conditions of the D Block license, including the network build-out schedule and satisfaction of the agreed-upon public safety specifications regarding the network construction and operations, in order to obtain a renewal of the license. Regarding the D Block license renewal application, we find the material requirements in the NSA to be those requirements that are the "essence" of the agreement between the parties, including but not limited to the build-out schedule for the public safety network and other provisions that serve the fundamental purpose of the NSA, as well as any time limits on the performance of those provisions.

---

[961] *700 MHz Further Notice*, 22 FCC Rcd at 8162-63 ¶ 275.

[962] *See* Frontline Mar. 6 Comments in WT Docket No. 06-150 at 19.

[963] NENA *700 MHz Further Notice* Comments at 4.

[964] *Id.*

[965] Cyren Call *700 MHz Further Notice* Comments at 17 (citing *700 MHz Report and Order*, 22 FCC Rcd at 8092-94 ¶¶ 73-79).

[966] *Id.*

[967] *Id.*

f. Public Safety Satellite Support

460. Background. In the *700 MHz Public Safety Ninth Notice*, we stated that "[s]urvivability is an important objective of the envisioned nationwide public safety broadband system."[968] We further observed that a network could be made "inherently robust by incorporating flexible routing and other features (possibly including a satellite component operating in other spectrum) that will maintain essential operations when parts of the infrastructure have been destroyed or disabled."[969] We tentatively found that these considerations argued in favor of establishing a single national public safety broadband licensee. "[A] single national licensee may be in a better position to ensure robustness and survivability," the Commission stated, in part because it could be "well-situated to contract for national satellite service and benefit from economies of scale in integrating satellite capability into its radios to the extent that such integration is beneficial."[970]

461. In its filings on which we sought comment, Frontline also briefly discussed the potential of satellite communications to enhance the coverage or robustness of a network. Frontline asserted that the commercial licensee and the public safety broadband licensee "could also work with Mobile Satellite Service licensees to provide satellite coverage to cover gaps in rural areas in the terrestrial 700 MHz public safety broadband network."[971] Frontline proposed no obligations for the commercial licensee with regard to satellite support, however, except that, after the fourth year of build-out (by which time, Frontline proposed, coverage would be provided to all Alaskan cities of 10,000 or more), the commercial licensee would "work with the Alaska Land Mobile Project to determine where additional coverage [in Alaska] is needed and feasible, taking various factors into account including the availability of satellite services."[972]

462. In the *700 MHz Further Notice*, we sought comment on whether, if the Frontline proposal were adopted, some or all public safety equipment operating on the commercial licensee's network, including handsets and other mobile or fixed receivers, should be required to be capable of accessing satellite communications, and whether the Commission should require the commercial licensee to incorporate satellite-based technology into its network infrastructure.[973] Comments filed in response to this inquiry generally favor making satellite technology available for public safety users. SIA urges the Commission to "(i) make a reasonable effort to ensure that as many 700 MHz public safety devices as possible have the capability to access a satellite system; and (ii) facilitate the incorporation of satellite-based infrastructure into any 700 MHz public safety network as a backup to terrestrial network infrastructure."[974] A number of commenters supporting the creation of a national public safety broadband network argue that a satellite overlay is necessary to cover rural and remote areas effectively.[975] MSV

---

[968] *700 MHz Public Safety Ninth Notice*, 21 FCC Rcd at 14843 ¶ 17.

[969] *Id.*

[970] *Id.*, 21 FCC Rcd at 14844 ¶ 26.

[971] *See* Frontline *700 MHz Public Safety Ninth Notice* Comments at 31 n.55.

[972] Frontline Mar. 26 *Ex Parte* in WT Docket No. 06-150 and 06-169 and PS Docket No. 06-229, at 8.

[973] *See 700 MHz Further Notice*, 22 FCC Rcd at 8165 ¶ 280.

[974] SIA Comments in WT Docket No. 06-169, PS Docket No. 06-229, WT Docket No. 96-86, at 2, 7, 13 (suggesting that by incorporating satellite services into the network infrastructure, public safety would have access to ubiquitous, advanced broadband communications capability, capable of providing a robust back-up system in case of terrestrial network failure); *see also* MSV *700 MHz Further Notice* Comments at 7 (advocating that the Commission "require all terminals on the 700 MHz public safety broadband network to have the capability of providing mobile service by satellite by 2010").

[975] *See, e.g.*, Fire Fighters Idaho *700 MHz Further Notice* Comments at 2; Fire Fighters Montana *700 MHz Further Notice* Comments at 2; Fire Fighters Oregon *700 MHz Further Notice* Comments at 2; Fire Fighters Mass. *700 MHz Further Notice* Comments at 2; Police Chiefs Mass. *700 MHz Further Notice* Comments, at 2 (all stating that a satellite overlay is necessary); *but see* Verizon Wireless *700 MHz Further Notice* Comments at 33, n. 76 (noting that satellite service already is present in 90 percent of all U.S. zip codes, citing High-Speed Services for Internet Access: Status as of June 30, 2006, Industry Analysis and Technology Division, Wireline Competition Bureau, at 2-3 (Jan. 2007) available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270128A1.pdf)).

proposes that all equipment should be required to have an embedded chipset, making it possible to access satellite systems.[976] MSV's proposal receives conditional support from APCO, which suggests that the Public Safety Broadband Licensee could explore the viability of imposing such a requirement.[977] Iridium urges the Commission to "require satellite back-up for public safety applications" without mandating a specific technology.[978] Iridium further advocates that the Commission "should allow public safety to select from the broadest range of technology to suit their needs" by encouraging the "use of seamlessly integrated technology in both the terrestrial 700 MHz public safety spectrum as well as one or more bands in which satellite systems operate."[979] Some public safety organizations, however, emphasize the need for public safety to have access to commercial off-the-shelf equipment, rather than imposing specific equipment mandates, and advocate flexibility in infrastructure requirements to facilitate cost-effective build-out of a national, interoperable network for public safety users in a Public/Private Partnership.[980]

463. Discussion. We agree with commenters that satellite service can be a valuable component of a public safety communications network. Satellite technology can provide the only means of communicating where terrestrial communications networks have been damaged or destroyed by wide-scale natural or man-made disasters. As the Katrina Report found, "[s]atellite networks appeared to be the communications services least disrupted by Hurricane Katrina. [B]oth fixed and mobile satellite systems provided a functional, alternative communications path for those in the storm-ravaged region."[981] In this regard, satellite service providers Iridium and MSV both reported substantial increases in the use of their services in and around New Orleans in the wake of Hurricane Katrina.[982] Satellite services also can enable public safety users to communicate in rural and remote areas that terrestrial services do not reach.[983] For example, even under the aggressive performance requirements we impose herein on the D Block licensee, there will remain a number of geographic areas without coverage for a number of years. As a result, the availability of satellite-based communications capabilities would serve to bolster the availability, robustness, and survivability of public safety communications networks, particularly in circumstances of the direst nature where the safety and security of Americans are greatly at stake. For these reasons, we believe that it is appropriate for us to strongly encourage and facilitate the incorporation of satellite-based communications capability into public safety networks. At the same time, we must ensure that any action we take in this regard does not unduly burden either public safety users or the D Block licensee.

464. Accordingly, we require that the D Block licensee make available to public safety users at least one handset that includes a seamlessly integrated satellite solution. We do not require that this handset use any specific technology, only that it be capable of operating both on the 700 MHz public safety spectrum and on the satellite frequency bands and/or systems of the satellite service providers with which the Public Safety Broadband Licensee has contracted for satellite service. We do not, however,

---

[976] MSV *700 MHz Further Notice* Comments at 7.

[977] APCO *700 MHz Further Notice* Reply Comments at 6.

[978] Letter from Gregg L. Elias, Counsel to Iridium, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 06-150 (filed July 2, 2007) (Iridium *Ex Parte* Letter).

[979] Letter from Gregg L. Elias, Counsel to Iridium, to Marlene H. Dortch, Secretary, FCC, PS Docket No. 06-229, WT Docket No. 96-86 (filed July 24, 2007) (Iridium July 24 *Ex Parte* Letter).

[980] *See, e.g.*, Missouri Highway Patrol *700 MHz Further Notice* Comments at 9, at 25, 35 (deployment can be less expensive by using COTS and existing network infrastructure where possible); *see also* NATOA *700 MHz Further Notice* Comments at 14 (when specifying the security and network interface requirements for equipment operating in an open access environment it will be important to consult public safety and to ensure that no particular manufacturer is inadvertently favored).

[981] Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, *Report and Recommendations to the Federal Communications Commission* at 10-11; *see also id.* at 24 ("satellite infrastructure was generally unaffected by the storm and could have provided a viable back-up system.").

[982] *See* Iridium *Ex Parte* Letter at 13; MSV *700 MHz Further Notice* Comments at 5-6.

[983] *See* APCO *700 MHz Further Notice* Reply Comment at 6; SIA *700 MHz Further Notice* Comments at 4-5.

require that the D Block licensee incorporate support for satellite communications into the infrastructure of the shared terrestrial network.

465. The record indicates that handsets with seamlessly integrated satellite solutions are already under development by some equipment vendors, and that the incremental cost of incorporating satellite capability into terrestrial handsets may be relatively small.[984] We find that this obligation will provide incentives for competitive development of handsets with various types of seamlessly integrated satellite capabilities, and potentially lead to affordable equipment and service costs for the public safety community. In addition, we expect that the D Block licensee may find that some consumer segments would find value in handsets with satellite capability. Public safety users, meanwhile, will be able to realize the advantages of satellite-capable handsets if they choose, but would be under no obligation to purchase them.

466. We expect that the D Block licensee, satellite companies, and handset manufacturers will take steps to facilitate the development of handsets with seamlessly integrated satellite solutions. Nevertheless, we understand that handsets offering an integrated satellite solution are not yet available, and that the development will take time. It would also be counterproductive for the D Block licensee to offer a handset with an integrated satellite solution that is incompatible with the satellite solutions ultimately adopted by the Public Safety Broadband Licensee. For these reasons, we do not establish an immediate obligation upon the D Block licensee to make satellite-capable handsets available. Rather, we will require the D Block licensee to begin offering at least one handset suitable for public safety use that includes a seamlessly integrated satellite solution pursuant to the terms, conditions, and timeframes set forth in the NSA. We believe that requiring the parties to address, as part of the NSA, how and by what date the D Block licensee will offer a handset with a seamlessly integrated satellite solution is reasonable and may encourage speedier development of such handsets for public safety use.

467. In addition to requiring the D Block licensee to offer at least one handset with a seamlessly integrated satellite technology, we strongly encourage the Public Safety Broadband Licensee to work with its constituent public safety entities throughout the country to facilitate the availability of a variety of satellite-based options. Such options could include the Public Safety Broadband Licensee using its relatively stronger market power to negotiate large-scale satellite service agreements with existing providers, working with the D Block licensee to negotiate for satellite service to expand or expedite build-out to rural areas, and exploring use of a multitude of existing and future technologies, including satellite-capable handsets, separate satellite-only handsets, mobile satellite base stations that can be deployed into areas where terrestrial facilities are damaged or destroyed, etc.

468. We decline to mandate the incorporation of support for satellite communications by the D Block licensee into the infrastructure of the shared network. Although such incorporation might provide some additional communications capacity, if the Public Safety Broadband Licensee contracts for terrestrial use of satellite frequencies, it would also impose additional costs that might hinder build-out of the terrestrial network. A mandate for specialized support may interfere with the D Block licensee's ability to take advantage of commercial off-the-shelf network facilities or rely on existing CMRS architecture, both of which might assist greatly in making a national build-out cost effective.[985] We believe that the D Block licensee and the Public Safety Broadband Licensee will be in the best position to determine whether and when satellite support within the terrestrial infrastructure is appropriate, and by what method it should be implemented, such as by negotiating a side-agreement with existing satellite service providers to use their excess capacity for public safety communications.

g. Local Public Safety Build-out and Operation

469. Background. Several commenters on the Frontline proposal recommend that

[984] *See* MSV *700 MHz Further Notice* Comments at 6.

[985] *See* Verizon Wireless *700 MHz Public Safety Ninth Notice* Comments at 6-14 (finding that public safety will receive "significant benefits" from taking advantage of commercial off-the-shelf equipment, and also from sharing infrastructure with existing CMRS networks); *see also* High Tech DTV Coalition *700 MHz Public Safety Ninth Notice* Comments at 10-14.

participation by public safety entities be voluntary, in the sense that public safety entities could use their own network operating in spectrum other than the 700 MHz public safety broadband spectrum if they so chose.[986] Commenters also recommend, however, that public safety entities be permitted to build out their own networks in the 700 MHz public safety broadband spectrum to some extent. Some argue for allowing public safety entities generally to choose other arrangements in the 700 MHz broadband spectrum either because it would promote competition among potential commercial partners to provide public safety entities with service at a better quality and price,[987] or because it would provide public safety entities with greater control over their own network services, enabling them to take advantage of their expertise and knowledge to tailor their network services to local needs.[988] For example, APCO argues that the Commission needs to preserve local options to facilitate deployment of data systems in areas where the national network may not be deployed for many years.[989]

470. Discussion. We conclude that no public safety entity will be required to use the 700 MHz public safety broadband network, and that any participation in the 700 MHz nationwide public safety network by individual public safety entities will be entirely voluntary. We also conclude, however, that the Upper 700 MHz Band D Block licensee should have the exclusive right to build and operate the shared wireless broadband network using the 700 MHz public safety broadband spectrum, except that we permit public safety entities to construct local broadband networks in the 700 MHz public safety spectrum in two limited circumstances subject to conditions specified below. We further conclude that public safety entities should have a limited right to build out wideband networks, again with conditions and restrictions.[990]

471. *Rights to Early Build-out in Areas with a Build-out Commitment.* First, in an area where the D Block licensee has, in the NSA, committed to build out by a certain date, but where a public safety entity wishes a more immediate build-out, the public safety entity may, with the pre-approval of the Public Safety Broadband Licensee, have the network constructed in that area at the public safety entity's own expense. The network must be capable of operating on the shared, interoperable broadband network that operates on both the D Block licensee's commercial block and the public safety 700 MHz broadband spectrum, and must meet all of the same requirements and specifications as the shared network required under the NSA.

472. We authorize two options for implementing the early build-out of an area of the broadband network at the discretion of the public safety entity. Under the first option, the public safety entity (or the Public Safety Broadband Licensee acting on its behalf) may construct the network in that area. Upon construction, it must transfer the network to the D Block licensee, which shall integrate that network into the shared national broadband network constructed pursuant to the NSA. Under the second option, the public safety entity may require the D Block licensee to construct the network in that area earlier than scheduled, but the public safety entity must provide all funds necessary for the early

---

[986] *See* Motorola *700 MHz Further Notice* Comments at 30 ("if the Commission adopts Frontline's plan, public safety should not be required to use Frontline's network. While Motorola believes that public safety would likely choose to use a purpose-build network, like the one proposed by Frontline, public safety should not be precluded from using devices on other carriers' networks, an option they already have today, if they so choose."); Cyren Call *700 MHz Further Notice* Reply Comments at 22 (supporting proposal that "[n]o public safety agency or entity will be *required* to operate on the network; participation is entirely voluntary based on decisions made by the same communications officials who decide today how local, statewide and regional communications requirements should be met").

[987] *See* Verizon Wireless *700 MHz Further Notice* Comments at 45 (asserting that Commission must ensure that any rights granted to the D Block licensee do not foreclose opportunity for public safety entities to consider other commercial partnerships, and arguing that competition for emergency communications services will ensure that first responders get the best price, quality, and capabilities that commercial companies have to offer).

[988] *See* RCC *700 MHz Further Notice* Comments at 54-55, 66.

[989] APCO *700 MHz Further Notice* Comments at 20-22.

[990] We address the specific case of public safety entities that wish to build out networks with wideband operations, as opposed to broadband operations, elsewhere in this Second Report and Order.

construction of the network, including any and all additional resource and personnel costs. As with the first option, upon construction, the D Block licensee will operate and manage the network as an integrated part of the larger shared national broadband network.

473. In either case, the Public Safety Broadband Licensee, the D Block licensee, and the public safety entity must, prior to any construction, negotiate an amendment to the NSA regarding this part of the network, specifying ownership rights, fees, and other terms, which may be distinct from the analogous terms governing the shared national broadband network. Absent agreement to the contrary, the amendment must provide that by a date no later than the build-out date specified for that area in the NSA, the D Block licensee will receive full ownership rights and will in turn compensate the public safety entity (or the Public Safety Broadband Licensee, where appropriate) for the construction of the network. The right to compensation for the build-out shall be limited, again absent agreement to the contrary, to the cost that would have been incurred had the D Block licensee constructed the network itself in accordance with the original terms and specifications of the NSA. Thus, while the public safety entity may construct a more expensive network, the D Block licensee will only be responsible for the costs of a network comparable to what it would have constructed in accordance with the original terms of the NSA, and any costs attributable solely to advancing the date of construction will not be compensable.

474. We point out that early build-out in this scenario is a right to construct only. Operations may not commence on the network until the network is transferred to the D Block licensee. Operations on early build-out networks would then be conducted under the authority of the Public Safety Broadband Licensee's license, in the same manner as any network operations that occur following construction by the D Block licensee under the build-out schedule contained in the NSA.

475. Starting on the date of compensation for build-out, or on the build-out due date of the NSA if there is no specified date of compensation, the D Block licensee may include the early build-out for purposes of determining whether it has met its national build-out benchmarks and the build-out requirements of the NSA.[991]

476. We note that the National Capital Region (NCR) has commenced construction and operation of a broadband network in the 700 MHz Band pursuant to an experimental license and has been granted a waiver in anticipation of its application for a license to operate such system.[992] The NCR consists of eighteen jurisdictions: The District of Columbia, Montgomery and Prince Georges Counties of Maryland, and the cities of Gaithersburg, Rockville, Takoma Park, Bowie, College Park, and Greenbelt; Arlington, Fairfax, Loudon and Prince William Counties of Virginia, and the cities of Alexandria, Falls Church, Town of Leesburg, Manassas, and Manassas Park.[993] Although NCR cannot now obtain a license, as such license will be held by the Public Safety Broadband Licensee, nothing herein should be construed as preventing or limiting NCR's ability to continue to operate the broadband network they have built within the 700 MHz broadband allocation (subject to NCR properly obtaining a grant of a request for Special Temporary Authority for such continued operation) until such time as the NCR network is integrated into the nationwide, interoperable broadband network in accordance with the build-out plan set forth in the NSA.

477. NCR, in requesting the waiver to operate its broadband network, specifically represented that it "fully underst[ood] and accept[ed] that as a result of any rulemaking changes the Commission may make, the NCR will have to comply with the results of such rule [sic] making and may have to do one of the following to continue the use of the 700 MHz spectrum for public safety broadband wireless

---

[991] Parties are thus free to provide that the ownership of the network will remain with the constructing public safety entity, in which case, the D Block licensee will owe no compensation for the build-out costs to that entity, and the network will not be counted toward the D Block licensee's build-out requirements until the build-out date specified for that area in the Network Sharing Agreement.

[992] *See* Request by National Capital Region for Waiver of the Commission's Rules to Allow Establishment of a 700 MHz Interoperable Broadband Data Network, WT Docket No. 96-86, *Order*, 22 FCC Rcd 1846 (PSHSB 2007)(NCR Waiver Order).

[993] *See* The National Capital Planning Act of 1952, 40 U.S.C. § 71.

communications: 1. Modify its proposed network. For example, we may have to change the center frequency of the carriers and the filters to protect narrowband operations; or 2. Change the proposed network. For example, we may have to change the underlying technology, and therefore, have to change the equipment to use a standard that is different from that chosen by the NCR (1xEVDO Rev A); or 3. Transition to a 700 MHz public safety national broadband wireless network that is managed by a single national licensee."[994] In fact, the waiver grant to NCR was explicitly conditioned on those representations, which are incorporated into the NCR Waiver Order as part of the conditions of the waiver.

478. We advise the Public Safety Broadband Licensee to consult NCR in negotiating the build-out date for the nationwide, interoperable network, as the build-out plan in the NSA should allow NCR a reasonable time to make any modifications necessary to incorporate its network into the nationwide, interoperable broadband network by the date set forth in the NSA for build out of the portion of the nationwide, interoperable broadband network in the NCR. NCR will, of course, be expected to comply with the requirements set forth herein for public safety entities exercising the right to early build out, and NCR shall be entitled to the same rights and compensation as set forth herein for public safety entities electing to exercise their right to early build out.

479. The Spectrum Coalition would have us give local public safety entities, including NCR, the ability to "opt-out" of the national, interoperable broadband network, yet operate individual systems in the 700 MHz Band. We flatly reject such argument; local public safety entities do not have to participate in the nationwide network, but they may not "opt-out" in favor of using the 700 MHz broadband spectrum for individual networks. As a general matter, as we have discussed above, there are numerous benefits to having a single Public Safety Broadband Licensee.[995]

480. *Rights to Build Out and Operate In Areas without a Build-out Commitment.* We acknowledge that, even under the stringent population-based build-out requirements that we are adopting, there will be areas of the nation in which the NSA does not require the D Block licensee to build out the shared broadband network. In such areas, under the policies and procedures discussed below, we provide that a public safety entity may build out and operate a separate, exclusive network in the 700 MHz public safety broadband spectrum at any time, provided the public safety entity has received the approval of the Public Safety Broadband Licensee and operates its independent network pursuant to a spectrum leasing arrangement into which the public safety entity has entered with the Public Safety Broadband Licensee.

481. Under this option, the public safety entity need not obtain any agreement with the D Block licensee. The Public Safety Broadband Licensee must, however, provide the D Block licensee with notice of the public safety entity's intent to construct in that area within 30 days of receipt of a request from a public safety entity wishing to exercise this option, and shall inform the D Block licensee of the public safety entity's anticipated build-out date(s). This affords the D Block licensee the opportunity, in conjunction with the Public Safety Broadband Licensee, to reconsider whether the NSA should be revised to include a commitment to build out the area that the public safety entity has identified. Further, if within 30 days of receiving such notice the D Block licensee certifies in writing to the Public Safety Broadband Licensee that it will build out the shared network in the area, within a reasonable time of the anticipated build-out date(s), as determined by the Public Safety Broadband Licensee, then the public safety entity shall not have the option of building out and operating its own separate exclusive network in the area. Under this circumstance, the D Block licensee, working with the Public Safety Broadband Licensee, must then adopt an appropriate amendment to the NSA, and such commitment would become enforceable against the D Block licensee as part of its build-out requirements. We note also that, as an alternative in such cases, the public safety entity would be able to complete early build-out under the

[994] *NCR Waiver Order* at 1849 ¶ 8, quoting letter from Bill Butler, NCR Interoperability Program, OCTO-Wireless Programs Group, to Marlene H. Dortch, Secretary, FCC (Jan. 29, 2007) and attached e-mail from Robert L. LeGrande, II, NCR Interoperability Program, Deputy Chief Technology Officer, District of Columbia, to Dana Shaffer, Deputy Chief, Public Safety and Homeland Security Bureau, FCC (Jan. 28, 2007).

[995] Specific to NCR, we reject such argument as inconsistent with the explicit representations they made in obtaining a waiver and the very waiver conditions themselves.

procedures we discuss above.

482. If the public safety entity pursues this option to build out a separate network, the Public Safety Broadband Licensee and public safety entity, as its spectrum lessee, must file a spectrum leasing arrangement with the Commission prior to the public safety entity commencing any operations. We will require that the spectrum leasing arrangement take the form of a spectrum manager leasing arrangement under the Commission's spectrum leasing rules.[996] We will not permit such arrangements to take the form of long-term *de facto* transfer spectrum leasing arrangements. We believe that it is necessary that the Public Safety Broadband Licensee retain not only *de jure* control of all of the spectrum associated with the Public Safety Broadband License, even in areas not scheduled for build-out, but also *de facto* control of the spectrum leased for use by public safety entities. As described elsewhere, the Public Safety Broadband Licensee has a number of important responsibilities related to the entire public safety community's use of the 700 MHz broadband spectrum. In order to carry out these responsibilities with respect to this early build-out option, the Public Safety Broadband Licensee must exercise actual oversight of its spectrum lessee's activities, including maintaining actual working knowledge about the spectrum lessee's activities and facilities that could affect compliance with applicable Commission rules.[997] Early build-out even in areas without a build-out commitment can impact adjacent or nearby build-out of the shared network by the D Block licensee. Accordingly, we find it essential that, as provided under the spectrum manager leasing rules and as distinguished from the long-term *de facto* transfer leasing arrangement, the Public Safety Broadband Licensee maintain actual oversight and working knowledge of its spectrum lessees' activities in order to ensure compliance with all requirements of the Communications Act, the Commission's rules, and the obligations set forth in this Second Report and Order.[998]

483. In addition to compliance with the Commission's spectrum leasing requirements, the public safety spectrum lessee must ensure that the following conditions are met: (1) the network must provide broadband operations; (2) the network must be fully interoperable with the shared national broadband network required by the NSA; (3) the network must be available for use by any public safety agency in the area; and (4) the network must satisfy any other terms or conditions required by the Public Safety Broadband Licensee. These conditions specifically must be included in the spectrum manager lease agreement entered between the Public Safety Broadband Licensee and the public safety entity. Consistent with Section 90.551 of the Commission's rules, which contains the general 700 MHz public safety spectrum construction requirements, the lease agreement between the parties must specify that the public safety entity must construct and place into operation its network within one year of the effective date of the spectrum manager leasing arrangement,[999] and if not, then the Public Safety Broadband Licensee will terminate the spectrum leasing arrangement pursuant to the Commission's rules.[1000] The separate network need not, however, meet the other specifications of the D Block licensee's shared national network. In particular, absent agreement of the public safety entity, the Public Safety Broadband Licensee, and the D Block licensee, the separate network may not operate using any spectrum associated with the D Block license. Finally, as required by the Commission's spectrum leasing rules, the Public Safety Broadband Licensee must notify the Commission of the spectrum manager leasing arrangement as part of the Commission's spectrum manager lease notification procedures.[1001] The notice must identify the public safety entity leasing the spectrum and the particular areas of spectrum leased as part of this

[996] 47 C.F.R. § 1.9020.

[997] *See* 47 C.F.R. § 1.9010 (standard for retaining *de facto* control under a spectrum leasing arrangement).

[998] *See* 47 C.F.R. §§ 1.9010-1.9030 (distinguishing between the licensee's responsibilities with regard to its spectrum lessee depending on whether they have entered into a spectrum manager leasing arrangement or, instead, a *de facto* transfer spectrum leasing arrangement).

[999] The public safety entity may seek extended implementation authority from the Commission pursuant to the requirements of Section 90.629. 47 C.F.R. § 90.629.

[1000] 47 C.F.R. § 1.9020(h)(3) (permitting licensee to terminate the spectrum leasing arrangement).

[1001] 47 C.F.R. § 1.9020(e).

build-out option.

484. We emphasize that under no conditions may a public safety entity construct a network using 700 MHz public safety broadband spectrum in an area absent the approval of the Public Safety Broadband Licensee. We find that permitting individual public safety entities to construct their own networks using this spectrum without such approval would lead to the same balkanization problems of existing public safety spectrum use that we seek to avoid here, and would be contrary to the Commission's determination that the public safety broadband spectrum shall be a single nationwide license subject to the authority of the Public Safety Broadband Licensee. Use of the public safety broadband spectrum without a spectrum lease from the Public Safety Broadband Licensee approved by the Commission would also be inconsistent with Section 310 of the Act, which requires Commission authorization for the use of licensed spectrum.[1002] Nothing in this determination should be construed, however, to prohibit the Public Safety Broadband Licensee from being responsive to requests from localities to opt out and provide separate network services pursuant to a spectrum lease approved by the Public Safety Broadband Licensee and the Commission.

485. *Conditions for Waiver to Allow Limited and Temporary Wideband Operations.* In the *700 MHz Further Notice,* we asked for comment on our tentative conclusion to prohibit wideband operations on a going forward basis, and deferred consideration of adopting a wideband interoperability standard.[1003] The record contains comments in support of and in opposition to allowing wideband operations.

486. In general, those supporting a wideband option argue that broadband operations are not needed everywhere,[1004] result in significant additional costs,[1005] and would take too long to build out.[1006] Some commenters disagree with the Commission's tentative conclusion that allowing wideband could hinder interoperability.[1007] Some commenters believe that we should take a "flexible" approach to permitting wideband operations, such as leaving the decision on whether to deploy a wideband system up to local/regional planners rather than establishing a regulatory mandate requiring use of broadband systems.[1008] Hampton Roads states that it is important for public safety disciplines "to have the flexibility to choose and deploy the best communication solutions based on the jurisdictions' specific needs as they relate to technologies, geographic challenges and increasing financial constraints."[1009] Region 33 (Ohio) contends that everything it has planned for in the future can be accomplished with wideband communications (150 kHz channels), and that a broadband requirement would be a disservice to Ohio and

---

[1002] 47 U.S.C. § 310.

[1003] *700 MHz Further Notice*, 22 FCC Rcd at 8156 ¶ 253 & n.521. At the same time, we also stated we would work with public safety entities to extend previous grants of Special Temporary Authority (STA), to the extent such public safety entity has constructed, deployed, and is currently operating a wideband system pursuant to STA. *Id.* at ¶ 250 n.512.

[1004] For example, Region 40 states that one size does not fit all when it comes to communications solutions. Region 40 (Texas North) *700 MHz Further Notice* Comments at 2.

[1005] L-3 *700 MHz Further Notice* Comments at 4.

[1006] APCO, for example, states that even "the most ambitious public safety broadband proposals will leave some portions of the country unserved for many years, and perhaps indefinitely." APCO *700 MHz Further Notice* Comments at 6; *see also* Fort Lauderdale *700 MHz Further Notice* Comments at 3; Hawaii *700 MHz Further Notice* Comments at 2; Region 16 (Kansas) *700 MHz Further Notice* Comments at 3.

[1007] *See, e.g.*, Region 9 (Florida) *700 MHz Further Notice* Comments at 2; Tacoma, WA *700 MHz Further Notice* Comments at 2.

[1008] *See, e.g.*, Tacoma, WA *700 MHz Further Notice* Comments at 2; Motorola *700 MHz Further Notice* Comments at 4-5; Region 16 (Kansas) *700 MHz Further Notice* Comments at 2.

[1009] Hampton Roads Interop *700 MHz Further Notice* Comments at 1; *see also* Region 40 (Texas North) *700 MHz Further Notice* Comments at 2.

its citizens.[1010] NATOA states that flexibility is critical and that public safety entities must have the option to choose the technology (wideband or broadband) that best serves their unique requirements and budgets.[1011]

487. Several commenters argue that the Commission should allow "mixed use" of wideband or broadband, but only in the upper 1.25 megahertz of the broadband segment and/or the guard band (a total of 2.25 megahertz),[1012] with the decision whether to implement wideband in this 2.25 megahertz segment left up to regional planning committees or state/local government.[1013] NPSTC proposes that wideband use in this segment be given primary status until 2019 and that such systems could maintain primary status beyond 2019 if the spectrum was not needed for broadband operations in the area.[1014] Under the NPSTC approach, wideband or local broadband systems also could operate on a secondary basis under certain conditions.[1015]

488. Other commenters support prohibiting wideband operations.[1016] In general, they argue that permitting a mixed deployment (wideband and broadband) undermines public safety capabilities. According to commenters opposing wideband operation, broadband provides for significantly more throughput, greater capacity, and better coverage, whereas wideband is an outdated, costly technology, the deployment of which would have a negative impact on interoperability. For example, Qualcomm states that it supports the Commission's tentative conclusion to prohibit wideband operations in the broadband segment, contending that to do otherwise may make it difficult to achieve full interoperability.[1017] Alcatel-Lucent argues that permitting operation of wideband technologies "will only perpetuate the shortcomings of today's public safety systems: limited, lower bandwidth applications; high cost of user devices; and limited interoperability."[1018] Frontline argues that, if the Commission allows wideband operations, it should only be in the narrowband portion of the spectrum.[1019] Cyren Call urges the Commission to permit both wideband and narrowband operations in the narrowband segment and suggests that the decision on whether to deploy wideband operations on narrowband general use channels would be left up to the regional planning committees.[1020]

489. On balance, we find that the benefits of selecting a band plan that lays the foundation for the deployment of a nationwide, interoperable broadband network outweigh the near term and relatively limited potential advantages of allowing wideband systems to disrupt the national broadband scheme. Based on the record before us, we affirm our tentative conclusion in the *700 MHz Further Notice* that providing wideband flexibility could hinder efforts to deploy a nationwide, interoperable broadband network by perpetuating a balkanization of public safety spectrum licenses, networks, and technology

---

[1010] Region 33 (Ohio) *700 MHz Further Notice* Comments at 3.

[1011] NATOA *700 MHz Further Notice* Comments at 6-7; *see also* California *700 MHz Further Notice* Comments at 8, Region 16 (Kansas) *700 MHz Further Notice* Comments at 1-3; Region 9 (Florida) *700 MHz Further Notice* Comments at 2.

[1012] Under this approach, the lower 3.75 megahertz of the broadband segment would be reserved for broadband only.

[1013] *See* NPSTC *700 MHz Further Notice* Comments at 20; *see also* APCO *700 MHz Further Notice* Comments at 6-7; Region 40 (Texas North) *700 MHz Further Notice* Comments at 2-3; San Diego County *700 MHz Further Notice* Comments at 8-9.

[1014] NPSTC *700 MHz Further Notice* Comments at 20-21.

[1015] *Id.* at 21.

[1016] See, *e.g.*, Alcatel-Lucent *700 MHz Further Notice* Comments at 13-15; Northrop Grumman *700 MHz Further Notice* Comments at 2-3; Qualcomm *700 MHz Further Notice* Comments at 17-31; Alcatel-Lucent *700 MHz Further Notice* Reply Comments at 3-6.

[1017] Qualcomm *700 MHz Further Notice* Comments at 31.

[1018] Alcatel-Lucent *700 MHz Further Notice* Comments at i-ii.

[1019] Frontline *700 MHz Further Notice* Comments at 55.

[1020] Cyren Call *700 MHz Further Notice* Comments at 24.

deployment.[1021] Only through use of broadband networks can public safety leverage advanced commercial technologies and infrastructure to reduce costs, speed deployment, and enable the potential for priority access to commercial networks during emergencies.[1022] Unfettered deployment of wideband systems in the broadband allocation will impede nationwide broadband interoperability and continue the balkanization of the public safety network landscape we seek to prevent. We are convinced that allowing wideband operations, particularly in the broadband segment intended to be part of a public/private relationship, could present relocation problems down the road. We, therefore, prohibit wideband operations in the public safety allocation of the 700 MHz Band, subject to the limited exceptions set forth herein.

490. Even in light of the advantages and opportunities that can be made available by broadband technologies, we recognize that some public safety entities may wish to deploy wideband systems based on specific needs pending deployment of the broadband network. We conclude, however, that such deployments should be rare and subject to certain criteria. Accordingly, we will require public safety entities seeking to deploy wideband systems to satisfy the following conditions and restrictions.[1023]

491. First, wideband operations in the 700 MHz public safety spectrum will be permitted only upon grant of a properly supported request for waiver of the requirement to conform to the band plan we adopt herein, *i.e.*, one that permits only broadband or narrowband operations.[1024] In the interests of ensuring the integrity of the public/private partnership for construction of a nationwide broadband, interoperable network, we find it necessary to consider requests to deploy wideband only in a waiver context. In this manner, the Commission will be able to best consider the particular facts and circumstances of each case, and balance the needs of the requesting public safety agency with the overarching goals of promoting a nationwide, interoperable broadband network. Requests for waiver to conduct wideband operations must be accompanied by an application for authorization.

492. Second, any petition for waiver must be accompanied by a letter from the Public Safety Broadband Licensee, confirming that the proposed wideband deployment is not inconsistent with the broadband deployment plan for the affected or adjacent service areas. We encourage public safety entities seeking such waivers to cooperate with the Public Safety Broadband Licensee to reach agreement on the conditions, if any, to be placed on any wideband deployment, including the appropriate plan for transition to the nationwide broadband, interoperable network.[1025] All requests for waiver must include any agreed-upon conditions and transition plan.

493. Third, except as discussed below, we will restrict grants of waiver to the deployment of a wideband system in the consolidated narrowband spectrum or the internal public safety guard band. We must limit any wideband operations in this manner in order to ensure the full preservation of the

---

[1021] *700 MHz Further Notice*, 22 FCC Rcd at 8156 ¶ 253.

[1022] *Id.*

[1023] We direct the PSHSB to grant a public safety entity that has constructed, deployed, and is currently operating a wideband system pursuant to STA to grant requests to extend the STA grant up until, but not later than, six months following the selection of the Public Safety Broadband Licensee (such operations to be referred hereafter as Grandfathered Wideband STA Operations). In this manner, public safety entities operating wideband systems under such circumstances will be afforded time to plan their spectrum usage to be able to conform to the requirements we adopt herein. We otherwise direct the PSHSB to deny any pending STA request to commence new wideband operations. Such applicants may submit new requests for authority to operate wideband systems only in conformance with the requirements we adopt herein.

[1024] *See* 47 C.F.R. § 1.925; *WAIT Radio v. FCC*, 418 F.2d 1153, 1158-59 (D.C. Cir. 1969), *aff'd*, 459 F.2d 1203 (D.C. Cir. 1972).

[1025] For example, wideband operations, even if occurring outside the broadband allocation, may conflict with the broadband deployment, whether due to interference concerns caused by the presence of wideband operations within the public safety band, or because the Public Safety Broadband Licensee determines that because of the broadband deployment, either the guard band must be cleared of any wideband operations, or the narrowband channels need to be used solely to satisfy narrowband needs.

broadband segment, and thereby enable the goals of the public/private partnership for a common broadband network and architecture. Based on the record before us, we are not convinced that any wideband operations could not be designed to operate in the narrowband and internal guard band spectrum. We also believe that the regional planning committees will continue to serve an important role in overseeing and crafting appropriate spectrum use; to that end, petitions for waiver in the narrowband spectrum must also include a letter from the appropriate regional planning committee or state licensee confirming that the proposed wideband deployment will not disrupt any regional or state planning efforts that are underway. We encourage the Public Safety Broadband Licensee to coordinate with the applicable regional planning committee or state licensee when these entities are asked to consider any wideband deployment in the narrowband portion of the public safety spectrum, to ensure proper coordination with existing and pending narrowband applications.

494. If there are instances where spectrum in the narrowband segment or internal guard band is unavailable for wideband operations, we will permit submission of request for waiver to operate in the upper 1.25 megahertz of the broadband allocation. We emphasize, however, that applicants seeking waiver relief to deploy wideband networks in the public safety broadband spectrum face a very high hurdle. As a threshold requirement, we will consider requests for waiver to conduct wideband operations in the broadband allocation only upon submission of a substantially supported, detailed technical showing demonstrating why there is insufficient spectrum in the narrowband allocation or internal guard band to support the desired wideband operations. As with requests to conduct wideband operations in the narrowband segment or internal guard band, any request for waiver to conduct wideband operations in the upper 1.25 megahertz of the broadband allocation must be accompanied by a letter from the Public Safety Broadband Licensee confirming that the proposed wideband deployment is not inconsistent with the broadband deployment plan for the affected or adjacent service areas, and all requests for waiver must reflect any conditions and transition plan agreed upon by the petitioner and the Public Safety Broadband Licensee. The public safety entity seeking to establish wideband operations in the broadband segment must have first issued a request for proposal (RFP) that permitted interested parties to submit broadband proposals that are technically consistent with the Public Safety Broadband Licensee network. Finally, the wideband applicant must include with its waiver request proof that responses to the RFP proposing a broadband network were more costly, provided less coverage as measured by throughput at the network edge, or were otherwise inferior to the accepted wideband proposal.

495. Notwithstanding anything herein to the contrary, we will not entertain any request for waiver seeking to permit wideband operations in the broadband segment in areas scheduled for broadband deployment within the first three years of the build-out plan for the national public safety broadband network. We believe that it would be unduly and unnecessarily disruptive to the national public safety broadband network to permit wideband deployment where the broadband network would be constructed at the same time or shortly thereafter. Particularly in light of the extensive benefits afforded by broadband technology, it would be wasteful of limited resources and contrary to principles of sound spectrum management to permit deployment of wideband technology in areas scheduled to receive broadband service. In addition, consistent with the waiver discussion herein, the Commission will not grant any waiver request for any wideband deployment in the broadband segment that does not include a detailed plan, accompanied by attestation, specifying how and by what date the wideband applicant will integrate its proposed wideband system into the national broadband network. The Commission shall condition any waiver relief for wideband operations in the broadband segment upon acceptance of the applicant's integration plan. As a further condition of any wideband operations proposed in the broadband segment, we will require all devices operating on the wideband system to be designed such that they also must be interoperable with the nationwide, broadband network.[1026] In order to ensure that our goals for the deployment of the nationwide broadband network are met, the authority granted for any wideband operations in the broadband segment will expire automatically upon the D Block licensee's initiation of service in areas where wideband has been deployed. Further, any Grandfathered Wideband STA operations or wideband authority granted by waiver in the public safety segment of the 700 MHz Band shall be secondary to primary narrowband or broadband applications, as applicable. Finally, as a

[1026] Motorola *700 MHz Further Notice* Comments at 20-21.

condition of the grant of waiver allowing deployment of a wideband system in the broadband segment, a public safety entity must certify in its application and waiver request its acknowledgement that it may not seek reimbursement for any costs involved in converting the wideband system to the national broadband network upon completion of the broadband network in the subject area.

496. License terms for wideband operations granted under waiver – whether they are in the narrowband, internal guard band, or broadband segments of the 700 MHz public safety spectrum – will be limited to no more than five years, and may be granted for less time depending on the particular circumstances presented. The Commission must receive requests for renewal of the license granted pursuant to waiver request not less than 180 days prior to expiration of the license. Renewal requests must include a showing that continued operation of the wideband system is in the public interest. Renewal requests for wideband operations in the broadband segment also must be accompanied by a letter from the Public Safety Broadband Licensee confirming that continuing wideband operations are not inconsistent with the broadband deployment plan for the affected or adjacent service areas. The license term for any renewal of waiver will not exceed three years and a wideband waiver licensee may only receive a single extension. Any renewal of a wideband authorization shall continue to be on a secondary basis only to primary narrowband or broadband applications, as applicable. Finally, in light of the waiver process we describe above, we find it unnecessary to adopt any particular wideband interoperability standard.

3. Safeguards Relating to the Public/Private Partnership

a. Rules for Establishment, Execution and Application of the NSA

497. Background. In the *700 MHz Further Notice*, we tentatively concluded that, in the event the Frontline proposal was adopted, we would need to impose conditions to deal with the circumstance where the winning bidder of the commercial license and the "national public safety licensee" are unable to reach agreement on a network sharing agreement.[1027] We specifically proposed requiring the winning bidder and the national public safety licensee to enter into binding arbitration in the event that they cannot resolve outstanding issues.[1028] We further tentatively concluded that, to provide incentives to reach an agreement, we would not grant a license to the winning bidder of the commercial license at auction until after it filed a network sharing agreement with the Commission, and received approval.[1029]

498. We also sought comment on several other issues and possible conditions, including whether (1) we should adopt a requirement that the parties report to the Commission on the status of the negotiations, (2) other conditions should be adopted that "ensure that an agreement is reached quickly and in a manner that is satisfactory to public safety," (3) we should adopt other options to provide additional oversight, (4) we should require an agreement by a certain date, and (5) in the absence of an arbitration option, whether the Commission should be authorized to appoint board members to the governance of the D Block licensee.[1030]

499. Commenters on this subject generally support requiring good faith negotiations,[1031] ongoing Commission oversight,[1032] waiting to grant the commercial license until the network sharing agreement is filed,[1033] and placing a deadline on the negotiation of that agreement.[1034] Commenters also

---

[1027] *See 700 MHz Further Notice*, 22 FCC Rcd at 8165 ¶ 282.

[1028] *See id.*

[1029] *See id.*

[1030] *See id.*, 22 FCC Rcd at 8165 ¶ 283.

[1031] *See* NPSTC *700 MHz Further Notice* Comments at 12.

[1032] *See* Cyren Call *700 MHz Further Notice* Comments at 15 (Commission should "engage in an ongoing review process as the [NSA] is being developed by the parties and [] require status reports on a regular basis . . . .").

[1033] *See* APCO *700 MHz Further Notice* Comments at 15; Cyren Call *700 MHz Further Notice* Comments at 14-15; Fire Fighters Virginia *700 MHz Further Notice* Comments at 2; Fire Fighters Oregon *700 MHz Further Notice* Comments at 1; NPSTC *700 MHz Further Notice* Comments at 10.

argue that, regardless of the remedies adopted, the Commission should assume an active role in oversight through reporting requirements and dispute resolution processes to ensure that the interests of public safety are adequately protected.[1035]

500. Commenters are divided on the issue of whether the Commission should resolve negotiation disputes through mandatory binding arbitration. While some commenters support an arbitration if it were done by the Commission,[1036] a number of public safety commenters strongly oppose any mandatory arbitration, whether private or by the Commission.[1037] They argue that mandatory dispute resolution would take control of public safety spectrum out of the hands of the national public safety licensee and would force the public safety community nationwide into a long-term partnership with an entity over whose selection they would have no control and who would be chosen solely by competitive bidding.[1038] They insist that the only appropriate remedy in the event the parties are unable to negotiate an agreement would be to auction a new license for the commercial spectrum.[1039]

501. Discussion. Based on the record, we specifically condition the D Block license on the following requirements to ensure the establishment and execution of the NSA in a timely manner while safeguarding the public interest.

502. *Approval of NSA as Pre-Condition for Granting the D Block license.* Because the terms of the NSA are critical to the success of the partnership, the D Block license will not be issued until the Commission has approved the NSA and following such approval, the parties execute the NSA and file an executed copy with the Commission. As several public safety commenters recognize, this condition for granting the license will ensure that the winning bidder for the D Block license has appropriate incentives to reach an agreement on the NSA in good faith and cannot stall the negotiations to avoid its obligations to public safety.[1040]

(Continued from previous page)

[1034] *See* APCO *700 MHz Further Notice* Comments at 15.

[1035] *See* Cyren Call *700 MHz Further Notice* Comments at 10-12, 17 (recommending that, "[a]t a minimum, the rules should require an annual report from the parties, one that provides status updates on key Network Sharing Agreement elements and, more generally, keeps the FCC apprised of the 'State of the Network.'"); NPSTC *700 MHz Further Notice* Comments at 12.

[1036] *See* Frontline *700 MHz Further Notice* Comments at 44.

[1037] *See* APCO *700 MHz Further Notice* Comments at 16; NPSTC *700 MHz Further Notice* Comments at 10-11 (opposing third-party arbitration); Cyren Call *700 MHz Further Notice* Reply Comments at 15; *but see* NPSTC *700 MHz Further Notice* Comments at 11-12 ("While still problematic, submitting disputes to the Commission . . . may be a viable option . . . .").

[1038] *See* APCO *700 MHz Further Notice* Comments at 16 ("We strongly oppose [binding arbitration] as it would also take control of the [public safety] spectrum out of the hands of the public safety licensee . . . . While [resolution by the Commission is] preferable to binding arbitration by a third party, this approach could still force public safety into a long term partnership with an entity that fails to understand public safety needs and obtained its license merely by being the highest bidder."); NPSTC *700 MHz Further Notice* Comments at 10-11. *See also* California *700 MHz Further Notice* Comments at 5-6 (supporting Frontline proposal if it is established by a "mutually agreeable" NSA).

[1039] *See* APCO *700 MHz Further Notice* Comments at 17 (re-auctioning "avoids the problem of a forced partnership. . . . The key to success is to ensure that public safety, not a commercial auction, decides the fate of public safety spectrum."); Cyren Call *700 MHz Further Notice* Comments at 15 (national public safety licensee should "not be forced to accept as its long-term partner . . . an entity determined exclusively by the size of its entity's auction bid" and if there are intractable disputes, "the National Licensee should be permitted to terminate the negotiation process and, at its discretion, consider partnership arrangements with other commercial 700 MHz licensees with authority to permit them secondary access to Public Safety's broadband spectrum."); NPSTC *700 MHz Further Notice* Comments at 11 ("The only appropriate solution . . . is to re-auction the spectrum, . . . the only remedy that preserves public safety control over public safety spectrum.").

[1040] *See* APCO *700 MHz Further Notice* Comments at 15-16; Cyren Call *700 MHz Further Notice* Reply Comments at 14 (also suggesting requiring a showing of financial *bona fides* before using a license). In one of its more recent filings, Frontline opposes this measure, arguing that it would be "an open invitation for losing bidders, incumbents and other competitors to poison the negotiations and even the dispute resolution process, in an effort to force an (continued....)

503. We recognize that the D Block licensee will be subject to an aggressive build-out schedule, and an applicant for the license may wish to commence certain initial construction activities prior to the grant of an authorization. We do not prohibit the winning bidder of the D Block license from engaging in network build-out during the NSA negotiation period and prior to grant of the license, but to ensure that such build-out does not frustrate the interests of public safety or preempt the negotiations regarding the appropriate build-out schedule, we require that any such build-out occur only with the approval of the Public Safety Broadband Licensee. Similar to service rules for other spectrum licenses,[1041] such construction is conducted at the sole risk of the applicant, is subject to the Commission's authority to provide notification to stop such build-out, and cannot result in commercial operation unless and until the Commission has granted the D Block license.

504. *Timeframe for Negotiation.* We also establish a deadline for the parties to reach agreement on the terms of the NSA to ensure that the Public/Private Partnership implementation is not indefinitely delayed. Specifically, we require the parties to commence negotiations on the terms of the NSA on the date that the winning bidder of the D Block license files its long form application[1042] or the date on which the Commission designates the Public Safety Broadband Licensee, whichever is later, and we further require the parties to conclude negotiations not later than six months after the commencement date. As soon as the parties have reached an agreement on all the terms of the NSA, but not later than five days after the six month period for negotiation has expired, they must submit for Commission approval the NSA together with all agreements and other documents referred to in the NSA, including the agreement reached on the broadband technology standard. The Commission will act on the NSA within 60 days of receipt. If the parties have not reached agreement on all terms of the NSA by the end of the six-month period, they must notify the Commission not later than five days after the expiration of the six-month period of the terms agreed upon, the nature of the remaining issues and each party's position on each issue (whether in the form of final best offers, or a characterization of the parties jointly on the positions of the parties and reason for impasse), whether additional negotiation is likely to produce an agreement, and, if so, a proposed deadline for completing the agreement.

505. *Requirement of Good Faith.* We require the parties to negotiate in good faith the specific terms of the NSA pursuant to the conditions, requirements, and guidance established in this Second Report and Order. We also require the parties to act in good faith in the performance of the NSA. To provide additional assurance that negotiations are proceeding in good faith, and except as explicitly set forth herein, the Commission will oversee the negotiation of the NSA, and will play an active role in the resolution of any disputes among the relevant parties (including the winning bidder for the D Block; the D Block licensee; the Operating Company; the Network Assets Holder; and the Public Safety Broadband Licensee), both resulting from the negotiations and once the parties are operating under the terms of the NSA.

506. *Progress Reports During Negotiations.* The winning bidder for the D Block license shall file an initial report within 10 days of the commencement of the negotiations period certifying that active and good faith negotiations have begun, providing the date on which they commenced, and providing a schedule of the initial dates on which the parties intend to meet for active negotiations, covering at a minimum the first 30-day period. We require that two members of the Commission's staff, one from the Wireless Bureau, and one from the Public Safety and Homeland Security Bureau, be present at all stages of the negotiation of the NSA as neutral observers. We do not intend, however that the staff act as arbitrators. Disputes must still come to the Commission for resolution. Beginning three months from the

(Continued from previous page)
impasse . . . ." Frontline July 24, 2007 *Ex Parte* at 1. Given that such parties will not be participating in the negotiations, however, we think that the risk that they could "poison" the negotiations is minimal. Further, we note that Frontline itself, in its original comments, supports this very condition when combined with binding dispute resolution, arguing that it "incentivizes the E Block licensee to reach a mutually beneficial agreement with the NPSL in a timely manner." Frontline *700 MHz Further Notice* Comments at 44. As stated elsewhere, the Commission will retain the option of engaging in binding dispute resolution in the event negotiations are unsuccessful.

[1041] 47 C.F.R. § 22.143.

[1042] *See* 47 C.F.R. §§ 1.2107-1.2109.

triggering of the six-month negotiation period, the winning bidder for the D Block license and the Public Safety Broadband Licensee must jointly provide detailed reports, on a monthly basis and subject to a request for confidential treatment, on the progress of the negotiations throughout the remainder of the negotiations. These reports should include descriptions of all material issues that the parties have yet to resolve. The monthly reports will enable us to identify any areas of significant disagreement between the winning bidder for the D Block license and the Public Safety Broadband Licensee. The Commission also reserves the right to require the parties to meet with Commission staff to discuss their negotiations or reports at any time during the negotiation process.

507. These reporting requirements, together with the authority we reserve to observe negotiations, will ensure that the Commission's participation is not limited to dispute resolution. We intend to actively monitor and, if required, participate in the negotiation process. Such involvement may help to avoid intractable disputes and to produce an agreement consistent with the rules we are establishing and the goals of the proceeding in a timely manner. This process may also help to determine whether parties are likely to reach an agreement prior to, but not later than the end of the negotiation period. If the Commission determines that parties are unlikely to reach an agreement or they violate certain obligations (*e.g.*, good faith negotiation obligations), the Commission (or the Bureaus) may take, on its own motion, actions pertaining to dispute resolution before the NSA approval, described elsewhere in this Second Report and Order, without waiting for the six-month negotiation period to fully elapse.

508. *Resolution of Negotiation Disputes.* Either upon notice of a dispute at the end of the six-month negotiation period, or on their own motion at any time, if the Chiefs of PSHSB and WTB determine that negotiations have reached a likely impasse, we delegate authority to the Chiefs of PSHSB and WTB to take certain actions jointly in the public interest to adjudicate the dispute.[1043] As appropriate, these actions may include but are not limited to one or more of the following: (1) granting additional time for negotiation; (2) issuing a decision on the disputed issues and requiring the submission of a draft agreement consistent with their decision; (3) directing the parties to further brief the remaining issues in full for immediate Commission decision; and/or (4) immediate denial of the long-form application filed by the winning bidder for the D Block license. Remedies shall not, however, include ordering private third-party arbitration. In the event that the long-form application filed by the winning bidder for the D Block license is denied, the winning bidder for the D Block license will be deemed to have defaulted under Section 1.2109(c) of the Commission's rules, it will be liable for the default payment set forth in § 1.2104(g),[1044] and the full Commission, at its discretion, shall decide whether to offer a new license for the spectrum to existing or new applicants, offer a new license to the other highest bidders (in descending order) at their final bids, or choose any other process within the Commission's statutory authority to reassign the license, in light of the public interest goals served by the Public/Private Partnership.[1045]

509. Our approach to adjudicating disputes during the NSA negotiations responds to the concerns of public safety commenters, including APCO, NPSTC, and Cyren Call, who have argued the only remedy the Commission should apply in the event of negotiation failure is to conduct a new auction for a new license for the spectrum.[1046] We note that, while public safety commenters have generally opposed a requirement of mandatory private third-party arbitration, they also concede that having the Commission adjudicate their disputes rather than a private party would address some of their concerns on this issue,[1047] and other commenters fully support adjudication of disputes by the Commission.[1048] We agree that it would be inappropriate to have issues regarding the use of public safety spectrum resolved by

[1043] 47 U.S.C. § 155(c)(1).

[1044] *See* 47 C.F.R. § 1.2104(g).

[1045] *See, e.g.*, 47 C.F.R. § 1.2109.

[1046] APCO *700 MHz Further Notice* Comments at 17; Cyren Call *700 MHz Further Notice* Comments at 15; NPSTC *700 MHz Further Notice* Comments at 11.

[1047] *See, e.g.*, NPSTC *700 MHz Further Notice* Comments at 11-12.

[1048] *See, e.g.*, Frontline *700 MHz Further Notice* Reply Comments at 13.

a private party and preclude that option as a remedy. We find, however, that we should not at this time preclude the option of disputes being adjudicated by the Commission. Rather, providing the Commission with discretion to choose from a range of remedies will enable the Commission to choose the most appropriate option in the context of the specific concerns raised by the parties. When the specific disputes are presented, the Commission will be in a better position to determine whether the goals of the 700 MHz Public/Private Partnership and the interests of public safety and the public will be best served by conducting a new auction for a new license for the D Block spectrum, or whether adjudication of disputes or another remedy is the best course.

510. *Licensing Rules and Procedures Applicable to the D Block license.* Except as provided herein, the Commission's competitive bidding rules applicable to other commercial licenses in the 700 MHz Bands will apply to the winning bidder for the Public/ Private Partnership License, including the practices and procedures listed in Part 1 of our rules.[1049] For example, the down payment requirement, the obligation of the winning bidder for the D Block license to file a "long form" license application, and the consequences of a default prior to grant of the license will be in accordance with Sections 1.2104, 1.2105, 1.2106, 1.2107, and 1.2109 of the Commission's rules.

511. If the long form application is denied, the procedures under Section 1.2109 of the Commission's rules will generally apply. We note that we may complete review of the long form application and deny the application without regard to the NSA, if the application is deficient or the grant of the license would otherwise be inconsistent with the Commission's rules. We further clarify that if the winning bidder for the D Block license fails to comply with the procedures we establish for negotiation or dispute resolution, fails to receive final Commission approval of an NSA, or fails to execute an approved NSA, (a) it shall be disqualified from holding the D Block license, (b) the license application will be denied, and (c) it will be deemed to have defaulted and will be subject to all payments and obligations under Section 1.2109 of our rules.[1050]

512. *Process for Final Approval.* The Commission will review and approve the NSA. To facilitate our review, we may seek input from the parties, or invite public comment on the proposed NSA, subject to redactions to protect a legitimate need for confidentiality. After conducting our review, we may approve the NSA in its entirety, approve it with modifications, or require the parties to address additional terms or re-draft existing terms within a specified timeframe. Following approval with or without modifications, the parties shall execute the NSA and submit a copy of the executed NSA to the Commission within 10 days of approval.

b. Ongoing Conditions for the Protection of Public Safety Service

513. Background. In its proposal, Frontline asserted that, if its proposed commercial block licensee encounters financial or other problems that prevent compliance with its obligations, the Commission may reclaim and re-auction the spectrum.[1051] Accordingly, it argued, there is no need for service rules to address this issue in some special fashion.[1052]

514. In the *700 MHz Further Notice*, we sought comment on whether other measures should be adopted to address what actions the Commission might or must take in the event that the commercial licensee fails to comply with its obligations.[1053] In particular, we asked whether (1) there should be a special process for public safety entities or others to challenge the commercial licensee's compliance with its obligations; (2) the license should cancel automatically based on failure to comply with specified obligations; (3) the Commission should establish an unjust enrichment requirement to be paid in the event the Commission is unable to reclaim the license after a failure by the commercial licensee to meet its

[1049] *See, e.g.*, 47 C.F.R. §§ 1.2104 *et seq.*

[1050] *See* 47 C.F.R. § 1.2109.

[1051] Frontline *700 MHz Further Notice* Comments at 9.

[1052] Frontline *700 MHz Further Notice* Comments at 9.

[1053] *See 700 MHz Further Notice*, 22 FCC Rcd at 8167 ¶ 289.

obligations; (4) in the event the Commission does reclaim the license, it should hold any network infrastructure built by the licensee in trust for public safety to avoid interruption of service to first responders; and (5) the Commission should provide a rebate of a portion of the net bid amount paid by the commercial licensee at auction upon satisfaction of the conditions of the license.[1054]

515. Commenters agree that the rules need to protect against any disruption to public network operations or default on build-out obligations or license cancellation.[1055] Commenters also offer a number of proposals to address these problems. To prevent the interruption of service to public safety users, several commenters propose that the Commission should simply establish an applicable rule similar to Section 214 of the Act and prohibit the commercial licensee from discontinuing operations to public safety without Commission approval.[1056] Verizon Wireless argues that, although a Section 214-like rule can provide for an orderly discontinuation of service, such a rule cannot, as a practical matter, require a failing business to continue to operate by regulatory fiat.[1057]

516. Several commenters recommend some form of financial security from the Public/Private Partnership Licensee, such as a performance bond or letter of credit, to be drawn on in the case of financial or regulatory difficulties.[1058] Commenters also emphasize the importance of continued monitoring by the Commission of the development and operations of the network. For example, Cyren Call proposes that we require annual reports that provide status updates on all key NSA elements to keep the Commission apprised on the state of the network.[1059] Others recommend that, in the event that the commercial licensee is non-compliant with the NSA, the infrastructure of the network should be held in trust for public safety to avoid interruption of services.[1060] Commenters also propose that the Commission establish an expedited process for addressing and resolving claims that the commercial licensee has not complied with its obligations.[1061]

517. Discussion. We conclude that several measures are necessary to address the possibility that problems will arise in the implementation of the NSA or the operation of the common network. We are concerned that such problems, whether financial or otherwise, may threaten the build-out of the public safety network or the continued provision of network services to public safety users. We are also concerned that the D Block licensee or a related entity might, in financial difficulty, draw the D Block license or the network assets, respectively, into a bankruptcy proceeding and attempt to place both the operations of the network and its underlying assets outside of the control of either public safety or the Commission. To address these concerns, while maintaining necessary incentives for investment and

---

[1054] *Id.*

[1055] APCO *700 MHz Further Notice* Comments at 20; Frontline *700 MHz Further Notice* Comments at 47 (the rules should protect against any disruption of public safety use of the network); Cyren Call *700 MHz Further Notice* Comments at 18; GEOCommand *700 MHz Further Notice* Comments at 13; MetroPCS *700 MHz Further Notice* Comments at 65; California *700 MHz Further Notice* Reply Comments at 6. *See also* Arcadian *700 MHz Further Notice* Comments at 5. Similarly, public safety users would be stranded if the E Block licensee failed to meet its construction benchmarks."); CTIA *700 MHz Further Notice* Comments at 22 (asserting that failure of the enterprise would result in significant lost opportunity costs and uncertainty for the deployment and operations of the public safety broadband network).

[1056] *See* APCO *700 MHz Further Notice* Comments at 20; Frontline *700 MHz Further Notice* Comments at 47; NPSTC *700 MHz Further Notice* Comments at 14; Cyren Call *700 MHz Further Notice* Reply Comments at 20.

[1057] *See* Verizon Wireless *700 MHz Further Notice* Comments at 27.

[1058] *See* APCO *700 MHz Further Notice* Comments at 20; Cyren Call *700 MHz Further Notice* Comments at 18-20; NPSTC *700 MHz Further Notice* Comments at 15.

[1059] *See* Cyren Call *700 MHz Further Notice* Comments at 17.

[1060] *See* GEOCommand *700 MHz Further Notice* Comments at 13.

[1061] *See* GEOCommand *700 MHz Further Notice* Comments at 12-13 (public safety entities should have a special ability to challenge the commercial licensee to ensure compliance on a fast track).

preserving commercial viability, we establish a number of inter-related requirements.[1062]

518. *Requirements Relating to Organization and Structure of the Public/Private Partnership.* To support continued construction and operation of the shared wireless broadband network by reducing the risk that the D Block license or the network assets will be drawn into a bankruptcy proceeding, we require the winning bidder for the D Block license to form separate special purpose entities,[1063] which will be bankruptcy remote,[1064] to hold the D Block license and the network assets, respectively. We also require the winning bidder of the D Block licensee to form another vehicle that will also be a bankruptcy remote, special purpose entity (Operating Company). The D Block licensee will lease the spectrum rights associated with the D Block license to the Operating Company pursuant to the Commission's spectrum leasing rules. The spectrum leasing arrangement will be for the entire term of the D Block license and will be renewable, provided that the Commission renews the underlying D Block license. These license transactions will occur following the granting of the D Block license and should follow existing Commission procedures applicable to such transactions. The Operating Company will also be leased secondary use rights associated with the primary license held by the Public Safety Broadband Licensee.[1065] To ensure that these requirements have been met, the D Block auction winner shall submit the proposed organizational structure to the Commission and demonstrate to the Commission's satisfaction that each of the constituent entities is appropriately bankruptcy remote. Finally, it shall be a condition of the D Block license and the Public Safety Broadband License that all special purpose entities and any leasing or other commercial agreements created to implement the public/private partnership will be subject to the Communications Act of 1934, as amended, and the Commission's rules and regulations, and the parties to the NSA shall acknowledge such regulatory authority in a form acceptable to the Commission.

519. The D Block licensee and other entities authorized and required in this Second Report and Order or the NSA will have the obligation to build out the nationwide, shared interoperable broadband network operating on the spectrum associated with the D Block license and the Public Safety Broadband License.

520. In connection with establishing the bankruptcy remote special purpose entities required hereunder, the Commission requires the issuance of one or more legal opinion letters, at the cost of the winning bidder of the D Block license, from bankruptcy counsel chosen by the winning bidder of the D Block license and acceptable to the Commission, and such other parties as the Commission may designate, that clearly states, subject only to customary assumptions, limitations and qualifications that none of the winning bidder, the Operating Company, or any party to the NSA or other related agreements will be substantively consolidated with any entity. The scope of this opinion letter shall also cover such other opinions as the Commission may request.[1066]

521. *Prohibition on Discontinuance of Public Safety Operations.* We prohibit the D Block

[1062] We decline to require the D Block licensee to post a financial security to ensure performance of its obligations. We are concerned that the burden of obtaining such a security could deter qualified entities from bidding on the D Block license and believe that a D Block licensee's financial resources are better used for actual construction and operation costs. *Cf.* Cyren Call *700 MHz Further Notice* Comments at 19 & n.20 (finding that "[m]easures such as obtaining performance bond arrangements are likely not to be available at a reasonable cost . . . .").

[1063] A "special purpose entity" is a legal entity created for a special limited purpose, in this context primarily to hold the D Block license or the network assets, or to conduct the operation.

[1064] A special purpose entity is "bankruptcy remote" if that entity is unlikely to become insolvent as a result of its own activities, is adequately insulated from the consequences of a related party's insolvency, and contains certain characteristics which enhance the likelihood that it will not become the subject of an insolvency proceeding.

[1065] We note that if we cancel the D Block license this spectrum lease arrangement will also be terminated.

[1066] The opinion letter must contain detailed legal analysis of the basis of counsel's opinion. A draft opinion letter must be submitted for review and approval by the Commission's Office of General Counsel prior to issuance of the opinion. Bankruptcy counsel and, if applicable, counsel's firm, must have a Martindale-Hubbell rating of "A/V" and must satisfy the Commission in all other respects.

licensee from discontinuing or degrading the broadband network service provided to the Public Safety Broadband Licensee or to public safety entities unless either at the request of the entity or entities in question or it has first obtained the approval of the Commission.[1067] Further, the D Block licensee must notify the affected public safety entity or entities and the Public Safety Broadband Licensee at least 30 days prior to any unrequested discontinuance or degradation of network service.

522. We recognize that such a prohibition cannot by itself prevent discontinuance of a financially ailing business operation indefinitely. We anticipate, however, that in the event of significant problems, it will ensure the continuance of public safety operations in the short term until longer terms measures have been adopted to address the underlying problems.

523. *Failure to Comply with the NSA or the Commission's Rules.* We establish rules to address how the Commission will remedy failures by either the D Block licensee or the Public Safety Broadband Licensee to comply with the NSA or our rules. First, with regard to the D Block licensee, as we have stated elsewhere, we have conditioned the D Block license on compliance with the NSA. Failure to comply with the Commission's rules or the terms of the NSA may warrant cancelling the D Block license, depending on the circumstances, and awarding it to a new licensee. In particular, the full Commission will decide whether to cancel and reassign the D Block license in the event that the D Block licensee either cannot or will not fulfill the critical responsibilities that are being given to it. Accordingly, we provide for a process by which cancellation will occur without threatening network services to public safety entities.

524. In the event that the Commission determines that the D Block license must be cancelled consistent with the Act and the requirements herein, an order shall be issued cancelling the license and announcing the process for awarding rights to the spectrum to a new licensee. However, pending the award to a new licensee, the Operating Company will be issued a special temporary authority (STA) to continue to provide both commercial and public safety service in the Public/Private Partnership spectrum. We find that issuance of an STA in this circumstance will serve the public interest, convenience, and necessity by enabling uninterrupted, seamless service to public safety entities as well as commercial users, pending the grant of a new license.[1068]

525. To further ensure that services to public safety are not threatened by cancellation or otherwise, the NSA shall require, in a separate agreement, the granting of (a) an irrevocable and assignable right of first refusal if the network and network assets are otherwise to be sold; and (b) an irrevocable and assignable option in favor of the Public Safety Broadband Licensee to acquire the network and all network assets if and whenever the D Block license is cancelled or terminated, by reason of default or for any other reason, for a consideration equivalent to the fair market value (FMV) of the tangible and intangible assets sold. This option shall be senior to, and have priority over, any other right, claim, or interest in or to the network or the network assets. An event of default includes any default of the D Block licensee of a material obligation under the NSA, as determined by the Commission. Valuation will be performed pursuant to a FMV methodology to be agreed upon by the parties and set

[1067] GEOCommand recommends that we address the threat of discontinuance by establishing a right to place the network assets in a government trust in the event of financial difficulty or non-compliance. *See* GEOCommand *700 MHz Further Notice* Comments at 13. We decline to establish such a rule, however, because we have serious concerns regarding both the legal validity of such a rule, its effectiveness in the event of bankruptcy filing (and the possible incentives created by such a rule for the D Block licensee to seek protection in bankruptcy), and its impact on the investment incentives that will be necessary to generate the capital to build the network. We find that the measures we have adopted, and the active oversight of the Commission, should be sufficient to ensure that public safety services will not be discontinued.

[1068] Under established standards, an STA is appropriate when the proposed action will serve the public interest, convenience and necessity. *See* Accounting Safeguards Under the Telecommunications Act of 1996, *Order*, 16 FCC Rcd 17969, 17970, ¶ 3 (2001); Application of GTE Corporation and Bell Atlantic Corporation for Consent to Transfer Control of Domestic and International Sections 214 and 310 Authorizations and Application to Transfer Control of a Submarine Cable Landing License, Order, 16 FCC Rcd 15957, 15958, ¶ 3 (2001) (addressing standard for granting STAs); *see also* 47 U.S.C. §§ 154(i), 214(a), 303(r), 308(a).

forth in the NSA. Valuation shall be performed immediately following the occurrence of a triggering event and completed within a reasonable time thereafter. The NSA must further provide that, in the event that the D Block license is awarded to a new entity, the Public Safety Broadband Licensee's right to purchase the network assets shall be reassigned to the new D Block licensee. Thereafter, the Public Safety Broadband Licensee's right to purchase shall be extinguished unless and until a new triggering event described above occurs, as the primary purpose of the right, to enable a smooth transition in the event of a default, would be achieved, and because maintaining the right might adversely impact the incentive of the new D Block licensee to invest in its network.

526. We provide that, in the event that the D Block license is cancelled, the Commission may choose any process within the Commission's statutory authority to reassign the license, in light of the public interest goals served by the Public/Private Partnership. Upon grant of a new license, the Commission, or the Bureaus acting on delegated authority, shall, in coordination with the former licensee and the new licensee, as well as the Public Safety Broadband Licensee, establish the terms and timing under which the temporary authorization shall be cancelled and the new D Block licensee assume the construction and operation of the network.[1069] This decision shall take into account, among other factors, any exercise by the new licensee of its right to purchase the network assets.

527. With regard to the Public Safety Broadband Licensee, in the event that the Public Safety Broadband Licensee fails to adhere to the terms of the NSA, or comply with the Commission's rules or any requirements contained in this Second Report and Order, to an extent giving rise to license cancellation, we delegate authority to the Chiefs, PSHSB and WTB jointly to determine an appropriate remedy. The potential remedies include, but are not limited to, cancelling the license, assigning the license to another entity, directing the Public Safety Broadband Licensee to transfer the assignable option to purchase the assets at fair market value, ordering specific performance, or ordering removal and replacement of individual officers, directors or member organizations of the Public Safety Broadband Licensee. The potential remedies would be consistent with the unique role and responsibilities of the Public Safety Broadband Licensee and the importance of minimizing any disruptions to public safety broadband operations in the 700 MHz Band.

528. *Resolution of Disputes after Grant of the D Block license.* The record supports Commission involvement in the adjudication of disputes arising from the 700 MHz Public/Private Partnership established in this Second Report and Order.[1070] We find that the Commission should assume primary responsibility and jurisdiction for adjudicating intractable disputes that arise once the parties are operating pursuant to the terms of the NSA. While we strongly encourage the parties to first attempt to resolve any disagreements themselves through voluntary means, the parties to the NSA may at any time bring a complaint based on a claim that the other party has deviated from the terms of the NSA, or a petition for a declaratory ruling to resolve the proper interpretation of an NSA term or provision. We emphasize that these shall be the exclusive remedies for claims seeking the interpretation of the NSA in the first instance. The Commission may, however, as an alternative to adjudicating the issues, require the parties to first seek a settlement to the dispute or authorize them to resolve the dispute through litigation or other means, particularly if the dispute is found to involve no significant public concerns, and the Commission will consider any request by the parties to authorize such means.

529. In the event the Commission decides to adjudicate the issues, we provide that the Commission will have full authority to interpret not only its rules but all of the provisions of the NSA.[1071]

[1069] As with the original license, a new license shall not be granted until an NSA is approved and executed by the parties. We authorize the Bureaus to adopt a process for establishing an NSA that differs from the process applicable to the establishment of the original NSA, to the extent that such difference will serve the goals of the Public/Private Partnership. For example, the Bureaus may require that the new licensee must accept the terms of the original NSA for its remaining term.

[1070] NPSTC *700 MHz Further Notice* Comments at 13 (submitting disputes regarding performance to the Commission appropriate because of the obligation in the Act to promote safety of life and property).

[1071] This is consistent with our requirement that the NSA must be approved by the Commission and the terms of the NSA are part of the license conditions.

We further provide that, if the Commission finds a material breach of the NSA, it may apply any remedy or enforcement mechanism within its authority. In particular, insofar as the D Block license is conditioned for its entire license term upon the D Block licensee's compliance with the terms of the NSA, breach of this licensing condition may result in the cancellation of the license or other enforcement action.[1072] Similarly, as discussed elsewhere, the Public Safety Broadband Licensee's breach of its license terms, the NSA, or our rules may also result in the cancellation of its license or other enforcement action. As with adjudication of disputes during the NSA negotiation process, the Chiefs of PSHSB and WTB are delegated joint responsibility for adjudicating any disputes that arise during performance of the NSA. Bureau level adjudications of NSA disputes must be completed within 45 days. The parties may seek review by the Commission of any bureau-level adjudication.[1073] Finally, we establish that, if a breach of the NSA occurs but is not brought to the Commission for resolution, the Commission retains authority to apply all appropriate remedies on its own initiative at any time after the breach occurs.

530. *Reporting Obligations.* Once the NSA is approved by the Commission and executed by the parties, the parties must jointly file quarterly reports with the Commission. These reports must include detailed information on the areas where broadband service has been deployed, how the specific requirements of public safety are being met, audited financial statements,[1074] which public safety entities (*e.g.*, police, fire departments) are using the broadband network in each area of operation;[1075] what types of applications (*e.g.*, voice, data, video) are in use in each area of operation to the extent known; and the number of declared emergencies in each area of operation. We anticipate that this information will be readily available from the billing systems used for the shared network, and reserve the right to specify additional information that the quarterly reports must include at a later date. The D Block licensee and Public Safety Broadband Licensee also have joint responsibility to register the base station locations with the Commission, providing basic technical information, including geographic location. Such registrations may be filed with a request for confidential treatment by the Commission. In this regard, we delegate to the Wireless Bureau authority to adopt rules and procedures to implement this requirement, as well as authority to modify ULS to accept such filings and to issue a Public Notice describing any such modifications and relevant filing procedures.[1076] We delegate to the Wireless Bureau the authority to adopt filing rules and procedures not inconsistent with this Second Report and Order to facilitate these reporting obligations.

4. Other Issues

a. Bidding Credits

531. Background. In the *700 MHz Further Notice*,[1077] we sought comment on whether the Commission's prior determination to provide applicants that are eligible to be licensed as designated entities, *i.e.*, small businesses, with bidding credits in an auction of 700 MHz licenses should apply to the

[1072] *See* 47 C.F.R. § 1.2109(c). The Commission may reassign the license through competitive bidding to a new applicant.

[1073] 47 C.F.R. § 1.115.

[1074] As part of these quarterly reports, the Commission may require financial information from the ultimate parent entity of the individual parties to the NSA.

[1075] By providing the number of public safety entities that have chosen to receive service from the network, the reports will provide the Commission with an important indicator of the network's success in meeting public safety needs. *See* NPSTC *700 MHz Further Notice* Reply Comments at 5-6. *See also* Cyren Call *700 MHz Further Notice* Comments at 17-18 ("In the end, success must be measured by the network's ability to attract Public Safety users . . . . ."); AT&T *700 MHz Further Notice* Reply Comments at 25 (recommending that the Commission require the D Block licensee to meet certain public safety participation benchmarks by a certain date); *see also* NPSTC *700 MHz Further Notice* Comments at 5-6 (D Block licensee should be judged on an ongoing basis by the quality of service it provides and the number of agencies that have chosen to participate in the network).

[1076] TIA *700 MHz Further Notice* Comments at 5 (recommending that the Commission impose regular reporting requirements to ensure performance).

[1077] *700 MHz Further Notice*, 22 FCC Rcd at 8160 ¶ 268.

license proposed by Frontline.[1078] Given that the Commission previously has declined to offer designated entities bidding credits for services with high implementation costs, we expressed concern that the capital requirements of constructing a nationwide network for public safety services might make it inappropriate to offer bidding credits in connection with such a proposal.[1079]

532. We further explained in the *700 MHz Further Notice* that Frontline's proposal that its proposed commercial licensee be required to provide only wholesale service created a conflict with the eligibility requirements for entities seeking a designated entity bidding credit.[1080] Section 1.2110(b)(iv) of the Commission's rules restricts an applicant's eligibility for designated entity benefits if it has an "impermissible material relationship," which is defined as an arrangement with one or more entities for the lease or resale (including under a wholesale agreement) of, on a cumulative basis, more than 50 percent of the spectrum capacity of any one of the applicant's or licensee's licenses.[1081] Thus, in considering whether to offer bidding preferences, including small business bidding credits, we noted in the *700 MHz Further Notice* that a wholesale-service-only requirement appeared to "plainly" create a violation of Section 1.2110(b)(iv)(A) of the Commission's designated entity eligibility rules.[1082] We therefore sought comment on this issue.[1083]

533. In response to the *700 MHz Further Notice*, Frontline argues in favor of providing bidding preferences, such as bidding credits, for applicants applying for the proposed commercial license, now the D Block license, based on their status as a small business or designated entity.[1084] Frontline contends in part that it, and other entities, that meet the Commission's definition of small businesses for purposes of receiving bidding credits are capable of raising the capital necessary to fulfill the obligations of the proposed commercial licensee.[1085] Frontline notes that the Commission's definition of small businesses is based on revenues rather than cash reserves or assets, and asserts that small businesses will be able to attract additional capital as needed to provide service with a Commission license.[1086] Frontline

---

[1078] *700 MHz Further Notice*, 22 FCC Rcd at 8166 ¶ 286. We did not specifically seek comment on Frontline's previous proposal, in response to the *700 MHz Public Safety Ninth Notice*, that the Commission should develop bidding credits for bidders making commitments to exceed required coverage benchmarks, modeled on the Commission's tribal lands bidding credits program. *See* Frontline *700 MHz Public Safety Ninth Notice* Comments at 32. Moreover, Frontline did not continue to advocate such a credit in its response to the *700 MHz Further Notice*. *See generally* Frontline *700 MHz Further Notice* Comments; Frontline *700 MHz Further Notice* Reply Comments.

[1079] As explained in the *700 MHz Further Notice*, this was true for services with extremely high capital costs such as direct broadcast satellite service and the digital audio radio service. *700 MHz Further Notice*, 22 FCC Rcd at 8166 ¶ 285. *See generally*, 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*).

[1080] *700 MHz Further Notice*, 22 FCC Rcd at 8166 ¶ 287.

[1081] 47 C.F.R. § 1.2110(b)(iv)(A).

[1082] *700 MHz Further Notice*, 22 FCC Rcd at 8167 ¶ 287. As the Commission explained in the *700 MHz Further Notice*, "[i]n 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." *Id.*

[1083] In connection with Frontline's material relationship arguments, we note the Office of Advocacy of the Small Business Administration's comments urging the Commission to stay the effect of revisions made in 2006 to the Commission's designated entity rules for the 700 MHz auction. SBA *700 MHz Further Notice* Comments at 2. We find nothing persuasive in the Office of Advocacy's pleading as to why the Commission's current rules should not apply to the auction of 700 MHz licenses.

[1084] Frontline *700 MHz Further Notice* Comments at 58-67.

[1085] *Id.* at 62.

[1086] *Id.* at 60-61.

also argues more broadly that providing bidding credits attracts applicants for licenses and thereby enhances the competition for and the efficient assignment of licenses.[1087] In brief, Frontline maintains that bidding credits may help potential applicants overcome efforts by incumbents to prevent others from winning newly available licenses. Commenters such as McBride, Blooston, and Council Tree generally support the availability of designated entity bidding credits either in connection with or without regard to Frontline's specific proposals.[1088]

534. MetroPCS states that, given Frontline's proposal for the obligations of the commercial licensee, it "shares the Commission's 'serious concerns'" about offering bidding preferences to such applicants based on their small business status.[1089] It maintains that the Frontline proposal would cause "a per se violation" of the current designated entity rules concerning impermissible material relationships.[1090] MetroPCS argues that Frontline has effectively requested that the Commission waive or change its designated entity rules for the proposed commercial licensee. It claims that Frontline has offered no grounds to justify such an action and that the Commission's current rules prohibit a wholesale arrangement such as that suggested by Frontline.[1091] The United States Cellular Corporation also opposes the Frontline proposal for both adopting the public/private partnership licensing regulations and offering bidding credits, arguing that such requirements would undermine "existing rules and expectations."[1092]

535. Discussion. We conclude that we should provide applicants that are eligible to be licensed as designated entities with bidding credits in the auction of the D Block license, consistent with the Commission's prior decision regarding bidding credits for 700 MHz licenses[1093] and our current designated entity rules.[1094] As explained elsewhere, we do not adopt Frontline's proposal that the D Block licensee be required to provide only wholesale service. Thus, the issues raised by commenters opposing designated entity benefits in light of such a requirement need not be addressed.

536. The Commission employs a service-by-service approach when it comes to defining designated entities eligible for small business bidding credits.[1095] As discussed in detail elsewhere, the D Block license presents a unique and innovative opportunity for a commercial service provider to serve the public interest by forming a public/private partnership with the Public Safety Licensee for the benefit of public safety entities and the public at large. Although the Commission generally has refrained from offering bidding preferences for nationwide licenses with services that may have high capital costs, as stated above, we have reserved our discretion to employ a service-by-service approach when it comes to defining small businesses. Pursuant to that discretion, the Commission has previously offered bidding credits in connection with nationwide licenses where the service specific rules have made it appropriate to

---

[1087] Frontline June 28 *Ex Parte*, Attach. at 16.

[1088] McBride Spectrum Partners, LLC *700 MHz Further Notice* Comments at 4-8; Blooston *700 MHz Further Notice* Comments at 7; Council Tree *700 MHz Further Notice* Reply Comments at 5-7.

[1089] MetroPCS *700 MHz Further Notice* Comments at 60.

[1090] *Id.* at 60-61. It should be noted that MetroPCS expresses disagreement "with the Commission's contention that wholesale arrangements are inconsistent with the statutory scheme for DEs." However, it acknowledges that "the holding to this effect, although being challenged, still remains in effect." *Id.* at 61 n. 148; *see also id.* at 63 n.155.

[1091] *Id.* at 61-63. MetroPCS further argues that a grant of Frontline's request should require the Commission to reexamine the future applicability of its designated entity rules to wholesale arrangements in general. *Id.* at 61 n.150.

[1092] USCC *700 MHz Further Notice* Comments at 19-20.

[1093] *See Upper 700 MHz First Report and Order*, 15 FCC Rcd at 529-530 (establishing bidding credits for frequencies covered by the D Block).

[1094] *See* 47 C.F.R. § 1.2110.

[1095] 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).

do so.[1096]

537. We conclude that the conditions on the D Block license detailed herein, which include compliance with all the terms of the NSA to be negotiated with the Public Safety Broadband Licensee, will deter bidding by parties that likely will be unable to fulfill the crucial financial commitments required to comply with the conditions and retain the license. Given these conditions, parties that are uncertain of their ability to hold the license for the full term are less likely to bid on the D Block license. In order to encourage the widest range of potentially qualified applicants to participate in bidding for the D Block license, we will provide eligible bidders for the D Block license with the existing 15 and 25 percent bidding credits, as the credits may be necessary to create incentives for investors to provide innovative small businesses with the capital necessary to compete for the D Block license at auction.[1097] Pursuant to our existing small business size standards, eligible bidders with average attributable gross revenues for the last three years not exceeding $15 million or $40 million, respectively, may be eligible for bidding credits of 25 percent or 15 percent, respectively.[1098]

b. License Partitioning, Disaggregation, Assignment, and Transfer

538. Background. Section 27.15 of the Commission's rules permits Part 27 licensees to seek Commission authorization to partition their geographic license areas and disaggregate their spectrum at any time following the grant of their licenses.[1099] Frontline in its "Public Safety Broadband Deployment Plan" proposed that to the extent the commercial licensee satisfies the construction requirements of §27.14 through partitioning or disaggregation, it shall do so through the first options listed in Sections 27.15(d)(1) and (2) of the Commission's rules.[1100] In the *700MHz Further Notice*, we sought comment on the proposed "Public Safety Broadband Deployment Plan," its likely effects on both the commercial and the 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.[1101] While most of commenters are silent on the issue, NPSTC recommends that the nationwide public safety licensee be provided the authority to veto any subsequent proposed license transfer or disaggregation/partitioning of the proposed commercial license that it believes would be detrimental to the deployment or continued operation of nationwide broadband system.[1102]

539. Discussion. Based on the record, we decide to prohibit geographic partitioning and spectrum disaggregation for the D Block licensee. As discussed elsewhere, the Public Safety Broadband Licensee is also prohibited from partitioning and disaggregation. We reasoned that such restriction is necessary to ensure the integrity of the nationwide broadband network and the public/private partnership we establish.

[1096] *See* "Announcing the High Bidders in the Auction of Ten Nationwide Narrowband PCS Licenses," *Public Notice*, PNWL 94-4 (rel. Aug. 2, 1994). In the nationwide narrowband PCS auction (Auction No. 1), bidding credits on ten nationwide licenses were offered to women- and minority-owned businesses. *See also* "1670-1675 MHz Band Auction Closes, Winning Bidder Announced," *Public Notice*, 18 FCC Rcd 9089 (2003). In the 1670-1675 MHz Band auction (Auction No. 46), the Commission offered a bidding credit on a nationwide license in the 1670-1675 MHz band to small businesses with average annual revenues not exceeding $40 million and very small businesses with average annual revenues not exceeding $15 million.

[1097] 47 C.F.R. § 27.502.

[1098] We note that use of these special small business size standards does not require coordination with the Small Business Administration.

[1099] 47 C.F.R. § 27.15.

[1100] Frontline Mar. 26 *Ex Parte* in WT Docket Nos. 06-150 and 06-169 and PS Docket No. 06-229 at 4, Attached Proposed Rules. Under this proposal, in partitioning, each D Block licensee should meet the build-out requirements independently within its own license area. After spectrum disaggregation, however, licensees would share the responsibility for the build-out. If either licensee fails, both licensees would be subject to forfeiture.

[1101] *700 MHz Further Notice*, 22 FCC Rcd at 8164 ¶ 277.

[1102] NPSTC *700 MHz Further Notice* Comments at 13.

540. We agree with NPSTC's concern that unrestricted license transfer or disaggregation and partitioning of the D Block license would be detrimental to the successful deployment and continued operation of nationwide broadband system.[1103] We find that the success of the Public/Private Partnership largely depends on the partnership structure and the negotiated terms of the NSA. Adding new parties into the partnership structure and splitting various obligations among the new partners after the NSA is executed could further complicate the rights and responsibilities of each party. Dealing with multiple licensees in case of disputes may also be unduly burdensome for the Public Safety Broadband Licensee and delay successful resolution of issues. The D Block license has specific license conditions that are designed to facilitate successful deployment and operation of nationwide broadband system. Allowing multiple licensees in the band may impair the nationwide aspect of the broadband network.

541. The record fails to address how the conditions in the NSA will apply to new D Block licensee in cases of partitioning and disaggregation. The goal of specific construction requirements in both the partitioning and disaggregation context is "to ensure that the spectrum is used to the same degree that would have been required had the partitioning or disaggregation transaction not taken place."[1104] As we noted in the *700 MHz Further Notice*, successful negotiation of the NSA is a critical first step to achieving the benefits to public safety.[1105] If the D Block licensee is allowed partitioning and disaggregation, the administrative burden on both D Block licensee and the public safety licensee would outweigh the benefit of flexibility to the licensee.

542. It would best service the public interest to assure reliable partnership between the D Block licensee and the potential Public Safety Broadband Licensee by prohibiting partitioning and disaggregation. We recognize that the Commission's existing Secondary Markets rules governing transfers and assignments would be applicable to the D Block licensee, providing further flexibility to the licensee.[1106] Thus, the D Block licensee would be permitted to assign or transfer its licensee subject to the Commission review and prior approval.[1107]

c. Commercial Service Issues

(i) Wholesale and Open Access Proposals

543. Background. In the *700 MHz Further Notice*, we sought comment on a proposal that the commercial licensee be required to operate as a "wholesale" provider with respect to commercial use of the Public/Private Partnership spectrum.[1108] In its comments, Frontline proposed that the commercial license to be used in the Public/Private Partnership should be allocated exclusively for a wholesale network provider whose sole focus is to operate the continuously reliable and robust network services that public safety needs.[1109] Under this "wholesale only" or "open access" proposal, the licensee would be required not to discriminate against any retail service provider, and users would be allowed to attach any devices to the network and to access services and content provided by unaffiliated parties.[1110] In its

---

[1103] NPSTC *700 MHz Further Notice* Comments at 13.

[1104] CMRS Partitioning and Disaggregation Order, 11 FCC Rcd 21831, 21864 ¶ 61 (1996).

[1105] *700 MHz Further Notice*, 22 FCC Rcd at 8165 ¶ 282.

[1106] *See generally Secondary Markets Second Report and Order*, 19 FCC Rcd 17503.

[1107] Because any such application is subject to Commission review and prior approval, however, it is precluded from overnight processing.

[1108] *700 MHz Further Notice*, 22 FCC Rcd at 8163-64 ¶ 276, 8167-68 ¶ 290; *See* Frontline *700 MHz Public Safety Ninth Notice* Comments 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, Attach. (Frontline's proposed 47 C.F.R. §§ 27.16, 27.51).

[1109] Frontline *700 MHz Public Safety Ninth Notice* Comments at 29.

[1110] *See 700 MHz Further Notice*, 22 FCC Rcd at 8168 ¶ 290. This proposal relates to one specific block of 700 MHz Band spectrum, and is separate from PISC's proposal for open access provisions applicable to CMRS spectrum generally in the 700 MHz Band, as discussed elsewhere in this Second Report and Order. *See also* (continued....)

comments, Frontline suggests that the commercial licensee be prohibited from selling more than 24.9 percent of its total service capacity to any one entity, and prohibited from selling capacity to affiliated third parties.[1111]

544. Most of the comments regarding this proposal parallel the comments regarding "open access" for other 700 MHz Commercial Services spectrum, which we summarize elsewhere. Proponents cite benefits they expect will flow from adoption of the proposal,[1112] while opponents dispute such claims and predict adverse consequences.[1113] The Wireless Founders Coalition for Innovation urges us to apply "Open Services, Open Devices, and Open Auction" requirements to the Public/Private Partnership spectrum "as a sandbox for entrepreneurs."[1114] RCC Consultants, however, notes that, "[t]he vast bulk of the Frontline [Comments] are addressed to matters of competition as to which public safety agencies have indicated no special interest . . . ."[1115] Arcadian observes that "no existing providers offer a wholesale service with automatic roaming and *Carterfone* benefits," and argues that "[t]he Commission should not conduct an experiment with the valuable Public/Private Partnership License spectrum, particularly if our nation's first responders are going to be relying on it."[1116] NPSTC concludes that "[o]pen access may be a viable option for the future, however, at this time not enough is known about the effects on the public safety part of the network to mandate it in the rules."[1117] CTIA, Alltel, and other carriers opposed mandatory "wholesale" requirement, arguing that the Commission should not mandate the "wholesale only" restriction for the commercial licensee and allow the innovation and market competition to determine the best course of the business model for the spectrum.[1118] Cyren Call argues that the proposal would have "very negative consequences . . . for Public Safety" because it would effectively preclude existing carriers from either participating in the auction or from entering into network hosting or other arrangements with the winning bidder.[1119] On the other hand, Google supports the mandatory wholesale/open access component of Frontline's proposal, arguing that it would "ensure that at least some of the spectrum available in the auction would lead to an open broadband platform."[1120]

545. Discussion. Based on the record, we decline to restrict the D Block licensee to operating exclusively on a "wholesale" or "open access" basis. Instead, we provide the D Block licensee with flexibility to provide wholesale or retail services or other types of access to its network that comply with our rules and the NSA. This decision is consistent with our determination, elsewhere in this Second

(Continued from previous page)
Frontline *700 MHz Public Safety Ninth Notice* Comments at 30; Frontline Mar. 6 Comments in WT Docket No. 06-150 at 16-17; Frontline *700 MHz Further Notice Comments* at 4-5; CCIA *700 MHz Further Notice Comments* at 6.

[1111] Frontline *700 MHz Further Notice* Comments at 19-20.

[1112] *See, e.g.*, CCIA *700 MHz Further Notice* Comments at 6; Frontine *700 MHz Further Notice* Comments at 16-23; PISC *700 MHz Further Notice* Comments at 12-29.

[1113] *See, e.g.*, CTIA *700 MHz Further Notice* Comments at 17-19; Qualcomm *700 MHz Further Notice* Comments at 11-12; Verizon Wireless *700 MHz Further Notice* Comments at 45-49, 51; AT&T *700 MHz Further Notice* Reply Comments at 16-17; CTIA *700 MHz Further Notice* Reply Comments at 11, 12; MetroPCS *700 MHz Further Notice* Reply Comments at 37 n.113, 40; USD Cellular *700 MHz Further Notice* Comments at 23-24.

[1114] WFCI *Ex Parte*, WT Docket No. 06-150 (filed June 7, 2007) at 2-5.

[1115] RCC *700 MHz Further Notice* Reply Comments at 47.

[1116] Arcadian *700 MHz Further Notice* Reply Comments at 5.

[1117] NPSTC *700 MHz Further Notice* Reply Comments at 9.

[1118] *See* Cyren Call *700 MHz Further Notice* Comments at 24-29; CTIA *700 MHz Further Notice* Comments at 18, 23; Alltel *700 MHz Further Notice* Comments at 6; MetroPCS *700 MHz Further Notice* Comments at 52-55; AT&T *700 MHz Further Notice* Reply Comments at 16-17; CTIA *700 MHz Further Notice* Reply Comments at 12; MetroPCS *700 MHz Further Notice* Reply Comments at 33-34; Stelera *700 MHz Further Notice* Reply Comments at 6.

[1119] Cyren Call *700 MHz Further Notice* Comments at 26; *see also id.* at 29 (Commission should not tie the partnership to a business model with an "uncertain commercial reception and unknown level of acceptance").

[1120] Google *700 MHz Further Notice* Comments at 8-9.

Report and Order, to reject imposing open access requirements broadly in the 700 MHz Band. We also note that concerns about imposing such obligations on the D Block licensee have been raised by a number of public safety commenters.[1121] NPSTC, for example, states that "open access" should not be a requirement for the commercial license associated with the public/private partnership.[1122] NPSTC states that the effects of an open access environment on public safety is unknown and that, before open access is mandated, a number of core issues such as "confidentiality, authentication, integrity and non repudiation must be all understood, particularly in the public safety environment."[1123] We conclude that, given the public/private partnership obligations adopted in this Second Report and Order, it would not serve the goals of the Public/Private Partnership to impose special wholesale or open-access requirements (*e.g.*, device, application, or network access conditions) on the D Block licensee specifically. Rather, giving the D Block licensee the flexibility to choose the commercial service it will provide based on its determination of market needs should improve the viability of the 700 MHz Public/Private Partnership and serve the interests of public safety.

546. With respect to the network services offered to public safety, we note that the negotiated terms adopted in the NSA will establish consistent technical requirements for attachment of commercial and public safety devices to the network, as necessary for appropriate network control. The Public Safety Broadband Licensee will also have the right to determine and approve specifications for public safety equipment used on the network, to the extent that such specifications are not inconsistent with network control requirements established in the NSA.

(ii) Roaming Proposal

547. Background. In the *700 MHz Further Notice* we sought comment on Frontline's proposal that its proposed commercial licensee be required, as a condition of its license, to offer roaming to any provider with customers utilizing devices compatible with the open protocol interface of the Public/Private Partnership network, and that such obligation be extended to all spectrum holdings of the commercial licensee.[1124] Frontline argued that this requirement would serve as a benefit to competition generally and small and rural commercial providers particularly.[1125]

548. Supporters of the proposal contend that this requirement will promote public safety in rural areas and that access to a robust, reliable, high-quality wireless network will enable small clinics and mobile health care workers in otherwise uncovered areas to access state-of-the-art IP applications such as remote video feeds and the downloading of visual information.[1126] On the other hand, CTIA, MetroPCS and others oppose Frontline's proposal, arguing that the roaming requirement as well as the wholesale requirement conflict with current CMRS carriers business models and that the Commission should refrain

---

[1121] *See, e.g.*, NPSTC July 6, 2007 *Ex Parte* at 2; APCO *700 MHz Further Notice* Reply Comments at 5.

[1122] NPSTC July 6, 2007 *Ex Parte* at 2.

[1123] NPSTC *700 MHz Further Notice* Reply Comments at 8-9. Cyren Call expresses similar concerns, and states that there are a number of "compelling reasons for rejecting the requirement the 'open access' 'wholesale' model." Cyren Call *700 MHz Further Notice* Comments at 28 (stating that a shared network will have multiple levels of priority access, encryption, and other forms of secured communications requirements, which raise significant unanswered questions vis-à-vis an open access requirement).

[1124] *700 MHz Further Notice*, 22 FCC Rcd at 8162 ¶ 274; Frontline *700 MHz Public Safety Ninth Notice* Comments at 32-33; Frontline Mar. 6 Comments in WT Docket No. 06-150 at 21.

[1125] *See* Frontline *700 MHz Further Notice* Comments at 24-25 (roaming requirement "will promote and protect competition by enabling mid-sized and rural carriers to remain viable wireless competitors in a concentrated market.").

[1126] *See* Frontline *700 MHz Public Safety Ninth Notice* Comments at 32-33; Frontline Mar. 6 Comments in WT Docket No. 06-150 at 21; CCIA *700 MHz Further Notice Comments* at 7; Cellular South *700 MHz Further Notice Comments* at 19-20; Frontline *700 MHz Further Notice Comments* at 4-5, 14-21; Google *700 MHz Further Notice Comments* at 8-9; CCIA *700 MHz Further Notice Reply Comments* at 6-7; Cellular South *700 MHz Further Notice Reply Comments* at 19-20.

from dictating specific business decisions for the commercial licensee.[1127] Cyren Call further argues against the proposal, as it did with the open access and wholesale proposals, on the grounds that it "would cause more harm than good to take any action that will have as its effect the preclusion of existing wireless carriers from choosing to participate in the [D Block license] auction, or from choosing to enter into network hosting or other arrangements . . . with the winning [D Block license] bidder."[1128]

549. Discussion. We note that the Commission is already considering in another proceeding a broad range of issues related to the automatic roaming obligations for CMRS carriers.[1129] We conclude that we should defer to the broader context of the pending roaming proceeding the determination of whether there are public interest benefits in also requiring automatic roaming to be provided by other commercial licensees. In addition, with regard to the D Block license specifically, we find that the proposed roaming requirement, which Frontline advocates as a benefit to competition generally and small and rural commercial providers particularly,[1130] is not related to the public safety purposes of the Public/Private Partnership, and may, as Cyren Call argues, deter qualified carriers from seeking to bid on the D Block license. We will therefore not at this time impose any special roaming requirements on the D Block licensee.

(iii) Applicability of CALEA, E911, and Other Requirements

550. Background. As part of its proposal on which we sought comment, Frontline asked the Commission to clarify that the regulatory requirements under the Communications Assistance for Law Enforcement Act (CALEA) and E911 rules, as well as "other requirements applicable to retail service providers," do not apply to its proposed commercial licensee.[1131] Frontline argued that the commercial licensee will be providing only wholesale service, that any retailer of its service will be subject to any "CALEA, E911, or other requirements applicable to retail service providers," and that, therefore, "no gap in the enforcement of these requirements will result from Frontline's proposals."[1132]

551. USCC opposes Frontline's requested clarification, stating that "CALEA and E911 are crucial mandates, upon which Frontline's future competitors have spent and will spend millions of dollars."[1133] A number of comments respecting regulatory requirements such as CALEA, E911, and hearing aid compatibility[1134] focus on the Commission's proposed clarification in the *700 MHz Commercial Services Notice*.[1135] CTIA supports the Commission's tentative conclusion in the *700 MHz*

[1127] *See* CTIA *700 MHz Further Notice Comments* at 18; Cyren Call *700 MHz Further Notice Comments* at 24-29; MetroPCS *700 MHz Further Notice Comments* at 52, 54; NENA *700 MHz Further Notice Comments* at 8; CTIA *700 MHz Further Notice Reply Comments* at 18; Cyren Call *700 MHz Further Notice Reply Comments* at 24-29; MetroPCS *700 MHz Further Notice Reply Comments* at 52, 54; NENA *700 MHz Further Notice Reply Comments* at 8.

[1128] Cyren Call *700 MHz Further Notice* Comments at 26.

[1129] *See* Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers, Automatic and Manual Roaming Obligations Pertaining to Commercial Mobile Radio Services, WT Docket No. 05-265, *Memorandum Opinion & Order and Notice of Proposed Rulemaking*, 20 FCC Rcd 15047, 15048 ¶ 2 (2005) ("*Roaming Reexamination NPRM*").

[1130] *See* Frontline *700 MHz Further Notice* Comments at 24-25 (roaming requirement "will promote and protect competition by enabling mid-sized and rural carriers to remain viable wireless competitors in a concentrated market.").

[1131] *See* Frontline Mar. 26 *Ex Parte* in WT Docket No. 06-150 and 06-169 and PS Docket No. 06-229 at 8. *See also* 47 C.F.R. § 20.18 (establishing E911 requirements for CMRS providers); 5 U.S.C. § 603 (CALEA); 47 C.F.R. Part 1, Subpart Z (establishing requirements under CALEA).

[1132] *See* Frontline Mar. 26 *Ex Parte* in WT Docket No. 06-150 and 06-169 and PS Docket No. 06-229 at 8.

[1133] USCC *700 MHz Further Notice* Comments at 21.

[1134] *Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones*, Report and Order, 18 FCC Rcd 16753, 16764-66 (2003).

[1135] *See 700 MHz Commercial Services Notice*, 22 FCC Rcd at 9388-90 ¶¶ 99-103.

Commercial Services Notice that certain services using Part 27 spectrum should be required to fulfill E911 and hearing aid compatibility obligations consistent with the Commission's existing functional criteria for those requirements.[1136] NENA further argues that the burden should be on parties seeking exemption from E911 obligations to file for a waiver.[1137] By setting the expectation that the Commission's E911 rules will be applicable to services operating in the 700 MHz Band, NENA believes that the repeated rulemakings and costly retrofitting that occurred in the past may be avoided.[1138] In its more recent filings, Frontline modifies its original proposal and now proposes that the commercial licensee will be subject to CALEA requirements and that it must "ensure that the shared network will not inhibit service-specific requirements, such as E911, provided by retailers of commercial services using the shared network ."[1139]

552. Discussion. We decline to categorically exempt services offered by the D Block licensee from E911, CALEA, and other regulatory requirements. Instead, we clarify that E911, CALEA, and other regulatory requirements will apply to services provided using Public/Private Partnership spectrum to the extent and only to the extent that these requirements apply to similar services provided elsewhere in the 700 MHz Band. We have only recently concluded that the E911 requirements established in Section 20.18 of our rules will apply to all commercial mobile radio services, including such services throughout the 700 MHz Band, that meet the functional criteria in Section 20.18(a),[1140] and we see no reason to revisit that decision.[1141] We defer any further examination of regulatory applicability to a more concrete and particular context, *e.g.*, if service providers seek clarification regarding the applicability of a specific regulatory requirement to their specific service.[1142]

553. We also note that, even though the D Block license for spectrum in the "D Block" band will be issued pursuant to Part 27 of the Commission's rules, the licensee will be required to comply with other rule parts, which are applicable to the other commercial 700 MHz bands, unless otherwise stated in this Second Report and Order.[1143] Some of these rule parts will be applicable by virtue of the fact that they apply to all licensees and others will apply depending on the type of services the D Block licensee provide. For example, the D Block licensee will be required to comply with the practices and procedures listed in Part 1 of our rules for license applications, adjudicatory proceedings, etc. In addition, to the extent the licensee provides a Commercial Mobile Radio Service, such service would be subject to the provisions of Part 20 of the Commission's rules, along with the provisions in Part 27.[1144] Part 20 applies to all CMRS providers, even though the stations may be licensed under other parts of our rules.

[1136] *See, e.g.*, CTIA *700 MHz Commercial Services Notice* Comments at 21 ("With respect to wireless services, such an approach is dictated by the public safety and public interest determinations underlying the Commission's E911 and HAC rules, as well as fundamental principles of regulatory parity."); *see also* NENA *700 MHz Commercial Service Notice* Comments at 6 (Commission should make the E911 requirements of Section 20.18 of the Commission's rules applicable to all services operating in the 700 MHz Band that meet the functional criteria set forth in Section 20.18(a) of the rules).

[1137] NENA *700 MHz Commercial Services Notice* Comments at 6.

[1138] *Id.*

[1139] Frontline July 3, 2007 *Ex Parte* at 1-2.

[1140] *See 700 MHz Report and Order*, 22 FCC Rcd at 8108-21 ¶¶ 120-150. We note that while the Commission concluded that providers of digital CMRS in the 700 MHz Commercial Services Band, among others, should be subject to hearing aid-compatibility requirements, it declined to impose such requirements until an appropriate technical standard for compatibility is established, and it established a 24-month period to provide time for the development of such a standard. *See id.* at 8108-21 ¶¶ 142-150.

[1141] We also note that we are not mandating wholesale services in this band.

[1142] We therefore express no opinion as to the applicability of any particular regulatory obligation to providers of wholesale broadband network capacity.

[1143] *See, e.g., Upper 700 MHz Report and Order*, 15 FCC Rcd 476, 509-513 ¶¶ 81-92 (2000).

[1144] 47 C.F.R. Part 20.

IV. PROCEDURAL MATTERS

A. Regulatory Flexibility Act

554. Pursuant to the Regulatory Flexibility Act of 1980, as amended (RFA),[1145] the Final Regulatory Flexibility Analysis (FRFA) for the Second 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,[1146] we nevertheless believe that it would serve the public interest to analyze the possible significant economic impact of the policy and rule changes in this band on small entities. Accordingly, the FRFA in Appendix C of this Second Report and Order includes an analysis of this impact in connection with all spectrum that falls within the scope of the Second Report and Order, including spectrum in the 746-806 MHz Band.

B. Paperwork Reduction Act of 1995

555. The Second Report and Order contains both new and 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. 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 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. In addition, we have described impacts that might affect small businesses, which includes most businesses with fewer than 25 employees, in the FRFA in Appendix C, *infra*. We note, however, that Section 213 of the Consolidated Appropriations Act 2000 provides that rules governing frequencies in the 36 megahertz of the spectrum in the 746-806 MHz Band allocated for commercial use become effective immediately upon publication in the Federal Register without regard to certain sections of the Paperwork Reduction Act.[1147] We are therefore not inviting comment on any information collections that concern those frequencies.

V. ORDERING CLAUSES

556. Accordingly, IT IS ORDERED that pursuant to Sections 1, 4(i), 5, 7, 10, 201, 202, 208, 214, 215, 222(d)(4)(A)-(C), 222(f), 222(g), 222(h)(1)(A), 222(h)(4)-(5), 229, 251(e)(3), 301, 303, 307, 308, 309, 310, 311, 312, 316, 324, 331, 332, 333, 336, 337, 403, 503, and 710, of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 155, 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), 229, 301, 303, 307, 308, 309, 310, 311, 312, 316, 324, 331, 332, 333, 336, 337, 403, 503, and 610, and Section 102 of the Communications Assistance for Law Enforcement Act, 18 U.S.C. § 1001, this SECOND 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, PS Docket No. 06-229, and WT Docket No. 96-86 is ADOPTED, and that Part 2, 27, and 90 of the

[1145] *See* 5 U.S.C. § 604.

[1146] 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).

[1147] *Id.*

Commission's rules, 47 C.F.R. Parts 2, 27, and 90, are AMENDED as set forth in Appendix B. This SECOND REPORT AND ORDER shall become effective 60 days after publication in the Federal Register subject to OMB approval for new information collection requirements.

557. IT IS FURTHER ORDERED THAT, pursuant to Section 5(c) of the Communications Act of 1934, as amended, 47 U.S.C. § 5(c), the Wireless Telecommunications Bureau and Public Safety and Homeland Security Bureau ARE GRANTED DELEGATED AUTHORITY to implement the policies set forth in this SECOND REPORT AND ORDER and the rules, as revised, set forth in Appendix B hereto.

558. IT IS ORDERED that, pursuant to Sections 4(i), 309, and 316(a) of the Communications Act, as amended, 47 U.S.C. §§ 154(i), 309, 316(a), the 700 MHz Guard Band A Block licenses of Access 700, LLC, Pegasus Guard Band, LLC, and Dominion 700, Inc. ARE MODIFIED, as specified in Appendix D, upon the effective date of this SECOND REPORT AND ORDER.[1148]

559. IT IS ORDERED that, pursuant to Sections 4(i), 309, and 316(a) of the Communications Act, as amended, 47 U.S.C. §§ 154(i), 309, 316(a), Access 700 Holdings, LLC, Pegasus Guard Band, LLC, and Radiofone Nationwide PCS, LLC shall surrender their 700 MHz Guard Band B Block licenses to the Commission no later than 5 days from the effective date of this SECOND REPORT AND ORDER.[1149]

560. IT IS ORDERED that, pursuant to Sections 4(i), and 309(f) of the Communications Act, as amended, 47 U.S.C. §§ 154(i), 309(f), Access 700, LLC is granted special temporary authority for a period of 180 days, upon the effective date of this SECOND REPORT AND ORDER, for frequencies 746.000-747.000 and 776.000-777.000 MHz in Major Economic Areas 20, 26, 32, 37, 44, and 52. The Wireless Telecommunications Bureau is delegated authority to issue such authorizations and to resolve any request for an extension of such authorizations as specified in this SECOND REPORT AND ORDER.

561. IT IS ORDERED that, pursuant to Sections 4(i), 309, and 316(a) of the Communications Act, as amended, 47 U.S.C. §§ 154(i), 309, 316(a) and Section 1.87 of the Commission's rules, 47 C.F.R. § 1.87, the 700 MHz Guard Band A Block license for Station WPRV447, licensed to PTPMS II Communications, L.L.C., WILL BE MODIFIED by changing the authorized frequencies from 746.000-747.000 and 776.000-777.000 MHz, to 757.000-758.000 and 787.000-788.000 MHz.

562. IT IS ORDERED that, pursuant to Sections 4(i), 309, and 316(a) of the Communications Act, as amended, 47 U.S.C. §§ 154(i), 309, 316(a) and Section 1.87 of the Commission's rules, 47 C.F.R. § 1.87, the 700 MHz Guard Band B Block licenses for Stations WPRV448 and WPRV449, licensed to PTPMS II Communications, L.L.C., WILL BE MODIFIED by changing the authorized frequencies from 762.000-764.000 and 792.000-794.000 MHz, to 761.000-763.000 and 791.000-793.000 MHz.

563. IT IS ORDERED that, pursuant to Sections 309 and 316 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 309, 316, the modifications of Stations WPRV447, WPRV448, and WPRV449, licensed to PTPMS II Communications, L.L.C., specified in paragraphs 561 and 562, *supra*, shall become final and effective 30 days from the effective date of this SECOND REPORT AND ORDER if no protests are filed within that period. The Wireless Telecommunications Bureau is delegated authority to resolve any such protests that may arise and to modify such licenses as specified in this SECOND REPORT AND ORDER.

564. IT IS ORDERED, pursuant to Sections 1 and 4(i) of the Communications Act, as amended, 47 U.S.C. §§ 151, 154(i), that on the effective date of this SECOND REPORT AND ORDER, all 700 MHz Band public safety licensees, whether holding individual narrowband authorizations or

[1148] Each licensee has waived its right to contest such license modifications under Section 316 of the Act. *See* Access Spectrum/Pegasus July 6, 2007 *Ex Parte;* Access Spectrum/Pegasus July 13, 2007 *Ex Parte*; Access Spectrum/Pegasus July 26, 2007 *Ex Parte.*

[1149] Each licensee has agreed to surrender its 700 MHz Guard Band B Block licenses to the Commission. *See* Access Spectrum/Pegasus July 13, 2007 *Ex Parte*; Access Spectrum/Pegasus July 26, 2007 *Ex Parte.*

operating pursuant to a State License, SHALL PROVIDE the total number of narrowband mobile and portable handsets and narrowband base stations in operation in channels 63 and 68, and the upper 1 megahertz of channels 64 and 69, as of 30 days after the date of adoption of this SECOND REPORT AND ORDER, along with the related information specified herein.

565. IT IS FURTHER ORDERED that the Wireless Telecommunications Bureau SHALL SEND a copy of this SECOND REPORT AND ORDER, by certified mail, return receipt requested, to Alfred Angelo, President, PTPMS II Communications, L.L.C., 340 North Avenue East, Cranford, New Jersey 07016, and James H. Barker, Esq., 1001 Pennsylvania Avenue, N.W. Suite 1300, Washington, DC 20004-2505.

566. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this SECOND REPORT AND ORDER, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

567. IT IS FURTHER ORDERED that the Commission SHALL SEND a copy of this SECOND REPORT AND ORDER in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, *see* 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 Further Notice
(WT Docket Nos. 06-150, 06-169, 03-264, 96-86, and PS Docket 06-229)

This is a list of parties who filed comments and reply comments within the designated comment periods in the proceeding. This list does not include approximately 250,000 individual citizens who filed brief comments both during and after the formal comment periods. Of these 250,000 comments, approximately 225,000 were compiled and filed as reply comments by MoveOn.org Civic Action. Approximately 25,000 others were filed as "Email Comments" to the Commission. The complete record in this proceeding is available in the Electronic Comment Filing System located at http://www.fcc.gov/cgb/ecfs/.

Comments

700 MHz Independents (Central Wisconsin Communications, LLC D/B/A Solarus, Chariton Valley Communication Corporation, Inc., Ct Cube, L.P. D/B/A West Central Wireless, Grand River Communications, Inc., Home Telephone Company, Horry Telephone Cooperative, Inc., Interstate Enterprises, Ltd., Kanokla Telephone Association, Inc., Palmetto Rural Telephone Cooperative, Inc., Siskiyou Telephone Company, And Southern Iowa 700, L.L.C) ("700 MHz Independents")
Access Spectrum LLC, Dominion 700 Inc., Harbor Guardband LLC, and Pegasus Communications Corp. ("Access Spectrum/Pegasus")
Ad Hoc Public Interest Spectrum Coalition (Consumer Federation of America, Consumers Union, Educause, Free Press, Media Access Project, New America Foundation, Public Knowledge, U.S. Public Interest Research Group) ("PISC")
Alcatel-Lucent ("Alcatel-Lucent")
Allcomm Technologies, Inc. ("Allcomm")
Alltel Corporation ("Alltel")
Aloha Partners, LP ("Aloha")
American Petroleum Institute ("API")
Arcadian Networks, Inc. ("Arcadian")
Association of Public-Safety Communications Officials-International, Inc. ("APCO")
AT&T Inc. ("AT&T")
Blooston Rural Carriers ("Blooston")
Cellular South Licenses, Inc. ("Cellular South")
Centennial Communications Corp. ("Centennial")
Center for Democracy & Technology ("CDT")
City of Albuquerque ("Albuquerque")
City of Fort Lauderdale, Florida ("Fort Lauderdale")
City of Independence, Missouri ("City of Independence")
City of Joplin ("Joplin")
City of New York ("New York, NY")
City of Philadelphia ("Philadelphia")
City of Tacoma, WA ("Tacoma, WA")
Communications Service Inc. ("Communications Service Inc.")
Computer & Communications Industry Association ("CCIA")
Council Tree Communications, Inc. ("Council Tree")
Counties of Foxcomm; Wisconsin Counties of Brown, Outgamie, Calumet and Winnebago ("Wisconsin Counties")
County of Lake - Ohio ("Lake, Ohio")
CTIA - The Wireless Association ("CTIA")
Cyren Call Communications Corporation ("Cyren Call")

Dataradio Inc. ("Dataradio")
Dekalb County Board of Education ("Dekalb Dept of Ed")
Department of Emergency Management, City/County of San Francisco ("San Francisco Department of Emergency Management")
Dobson Communications Corporation ("Dobson")
Embarq, CenturyTel, and Citizens/Frontier (Mid-Size ILECs) ("Embarq")
Enterprise Wireless Alliance ("Enterprise")
Ericsson Inc ("Ericsson")
ETMC EMS ("ETMC EMS")
Fargo (North Dakota) Metropolitan Statistical Area Police, Fire and EMT Agencies ("Fargo MSA Police")
Frontier Communications ("Frontier")
Frontline Wireless LLC ("Frontline")
GEOCommand, Inc. ("GEOCommand")
Google Inc. ("Google")
Grundy County Emergency Telephone System Board ("Grundy Co ETS")
Hampton Roads Interoperable Communications Advisory Committee ("Hampton Roads Interop")
Hawaii Fire Chiefs ("Fire Fighters Hawaii")
Horizon Telcom, Inc. ("Horizon")
Idaho Fire Chiefs Association ("Fire Fighters Idaho")
Jefferson County, Alabama ("Jefferson County, AL")
Johnson County KS ("Johnson County, KS")
L-3 Communications Corporation ("L-3")
Lake County Sheriff's Department ("Lake County Sheriff")
Leap Wireless International, Inc. ("Leap")
Louisiana Statewide Interoperability Executive Committee ("Louisiana Interoperability")
M/A-COM, Inc. ("M/A-COM")
Madison County Communication District ("MCCD")
Massachusetts Chiefs of Police Association ("Police Chiefs Mass")
McBride Spectrum Partners, LLC ("McBride")
MetroPCS Communications, Inc. ("MetroPCS")
Michael Gallagher & Larry Irving ("Gallagher & Irving")
Mid-America Regional Council ("Mid-America Regional Council")
Mike Jeffres, Chair Region 26 Nebraska 700 MHz RPC ("Region 26 (Nebraska)")
Minnesota Region 22 700 MHz Public Safety Regional Planning Committee ("Region 22")
Missouri State Highway Patrol Communications Division ("Missouri Hwy Patrol")
Mobile Satellite Ventures Subsidiary LLC ("MSV")
Montana State Fire Chiefs Association ("Fire Fighters Montana")
Motorola, Inc. ("Motorola")
Mower County, Minnesota Office of the Sheriff ("Mower County Sheriff")
Nassau County (NY) Fire/Rescue Services ("Nassau County")
National Association of EMS Physicians ("EMS Physicians")
National Cable & Telecommunications Association ("NCTA")
National Emergency Number Association ("NENA")
National Public Safety Telecommunications Council ("NPSTC")
National Rural Electric Cooperative Association ("NRECA")
National Telecommunications Cooperative Association ("NTCA")
National Volunteer Fire Council ("NVFC")
NATOA, NACO, USCM and NLC ("NATOA")
Nevada (Region 27) 700 MHz Regional Planning Committee ("Region 27 (Nevada)")
Northrop Grumman Information Technology, Inc. ("Northrop Grumman")
Office of Advocacy, U.S. Small Business Administration ("SBA")
Office of the Hennepin County Sheriff ("Hennepin County Sheriff")
Ohio Region 33 700 MHz. Planning Committee ("Region 33 (Ohio)")
Ohio Statewide Interoperability Executive Committee ("Ohio Interoperability Council")

Orange County Sheriff's Department ("Orange County Sheriff")
Oregon Fire Chiefs Association ("Fire Fighters Oregon")
Police Executive Research Forum ("Police Executive Research Forum")
Professional Fire Fighters of Massachusetts ("Fire Fighters Mass")
PTPMS II Communications, L.L.C. ("PTPMS")
Public Utility District #1 of Snohomish County ("Snohomish PUD")
QUALCOMM Incorporated ("Qualcomm")
Radiofone Nationwide PCS, L.L.C. ("RadioFone")
RCC Consultants, Inc. ("RCC")
Region 9 Florida, Regional Planning Committee ("Region 9 (Florida)")
Region 10 (Georgia) 700 MHz Public Safety Regional Planning Committee ("Region 10 (Georgia)")
Region 13 (Illinois) 700 MHz Public Safety Regional Planning Committee ("Region 13 (Illinois)")
Region 14 700 MHz Regional Planning Committee ("Region 14 (Indiana)")
Region 16 (Kansas) Regional Planning Committee ("Region 16 (Kansas)")
Region 40 Regional Planning Committee ("Region 40 (Texas North)")
Region 43 Regional Planning Committee ("Region 43 (Washington)")
Rehabilitation Engineering Research Center for Wireless Technology ("Rehabilitation Engineering")
Rick Neathery ("Neathery")
Rural Cellular Association ("RCA")
Rural Telecommunications Group, Inc. ("RTG")
San Diego County - Imperial County, CA Regional Communications System ("San Diego Regional System")
Satellite Industry Association ("SIA")
Scott D. Reiter ("Reiter")
Sharp Communication, Inc. ("Sharp")
Sherburne County Emergency Services ("Sherburne County")
SpectrumCo LLC ("SpectrumCo")
Sprint Nextel Corporation ("Sprint Nextel")
State of California ("California")
State of Hawaii, Department of Accounting and General Services ("Hawaii")
State of Ohio MARCS Program ("Ohio MARCS")
Telecommunications Industry Association ("TIA")
Texas Statewide Interoperability Executive Committee ("Texas Interoperability")
The Coalition for 4G in America (Access Spectrum LLC, The DIRECTV Group, Inc., EchoStar Satellite, L.L.C., Google, Inc., Intel Corporation, Skype Communications S.A.R.L., YAHOO! Inc. ("4G Coalition")
The Wireless Internet Service Provider Association ("WISPA")
Union Telephone Company ("Union")
United States Cellular Corporation ("U.S. Cellular")
Vanu, Inc. ("Vanu")
Verizon Wireless ("Verizon")
Virginia Fire Chiefs Association ("Fire Fighters Virginia")
Western Fire Chiefs Association - President Jeff Johnson ("Fire Fighters Western")
Wirefree Partners III, LLC ("Wirefree Partners")
Wireless Communications Association International, Inc. ("WCA")
Wisconsin State Patrol ("Wisconsin State Patrol")
York County, SC ("York County, SC")

Reply Comments

Access Spectrum, Dominion 700, Harbor Guardband, and Pegasus Communications ("Access Spectrum/Pegasus")
Alcatel-Lucent ("Alcatel")
Aloha Partners, L.P. ("Aloha")
Arcadian Networks ("Arcadian")

Association of Public-Safety Communications Officials-International, Inc. ("APCO")
AT&T Inc. ("AT&T")
Barat Wireless, L.P. and Carroll Wireless, L.P. ("Barat")
Cellular South Licenses, Inc. ("Cellular South")
City of El Paso/Yvonne Bonnie V. Guinn ("El Paso")
Council Tree Communications, Inc. ("Council Tree")
CTIA - The Wireless Association ("CTIA")
Cyren Call Communications Corporation ("Cyren Call")
Dobson Communications Corporation ("Dobson")
Fire Fighters Association District of Columbia ("Fire Fighters DC")
Frontline Wireless LLC ("Frontline")
Hawaii Fire Fighters Association ("Fire Fighters Hawaii")
L-3 Communications Corporation ("L-3")
Leap Wireless International, Inc. ("Leap")
Lisa K. Thompson - Arlington County, VA ("Arlington County, VA")
M/A-COM, Inc. ("M/A-COM")
Maryland Fire Chiefs Association ("Fire Fighters Maryland")
MetroPCS Communications, Inc. ("MetroPCS")
Metropolitan Emergency Services Board ("Metropolitan Emergency Services Board")
Michigan Professional Firefighters Union ("Fire Fighters Michigan")
Missouri State Highway Patrol ("Missouri Hwy ")
Mobile Satellite Ventures Subsidiary LLC ("MSV")
Montana State Fire Chiefs' Association ("Fire Fighters Montana")
Motorola, Inc. ("Motorola")
MoveOn.org Civic Action ("MoveOn")
MoveOn.Org/40 Technology & Civic Leaders ("MoveOn with 40 tech")
National Emergency Number Association ("NENA")
National Public Safety Telecommunications Council ("NPSTC")
National Telecommunications Cooperative Association ("NTCA")
NATOA, NACO, NLC, USCM ("NATOA")
Northrop Grumman Information Technology, Inc ("Northrup Grumman")
NYS Professional Fire Fighters Assoc. ("Fire Fighters NY")
Office of the Chief Technology Officer -- District of Columbia ("DC Govt")
Oregon State Fire Fighters Council ("Fire Fighters Oregon")
Professional Fire Fighters of Georgia ("Fire Fighters Georgia")
Professional Fire Fighters of Idaho ("Fire Fighters Idaho")
Professional Firefighters Union of Indiana, Inc. ("Fire Fighters Indiana")
Puerto Rico Telephone Company, Inc. ("Puerto Rico Tel")
QUALCOMM Incorporated ("Qualcomm")
RCC Consultants, Inc., et al ("RCC")
Rural Cellular Association ("RCA")
Rural Telecommunications Group, Inc. ("RTG")
State of California ("California")
Stelera Wireless, LLC ("Stelera")
TCA, Inc. ("TCA")
Tennessee Professional Firefighters Association ("Fire Fighters Tenn")
Texas State Association of Firefighters ("Fire Fighters Texas")
The Blooston Rural Carriers ("Blooston")
The Greater Boston Police Council ("Police Boston")
The Spectrum Coalition for Public Safety ("SCPS")
The Wireless Internet Service Providers Association ("WISPA")
T-Mobile USA, Inc. ("T-Mobile")
Union Telephone Company ("Union")
United States Cellular Corporation ("USCC")
USA Broadband, LLC ("USA Broadband")

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 Safety, *et al.*")
Washington State Council of Fire Fighters ("Fire Fighters Washington")

Comments and Reply Comments to Google Public Notice

List of Comments and Reply Comments
In the 700 MHz Commercial Services and Guard Band Proceedings
(WT Docket No. 06-150 and WT Docket No. 06-169)

Comments

AT&T Inc. ("AT&T")
Computer & Communications Industry Association ("CCIA")
CTIA - The Wireless Association ("CTIA")
Frontline Wireless LLC ("Frontline")
MetroPCS Communications, Inc. ("MetroPCS")
National Public Safety Telecommunications Council ("NPSTC")
QUALCOMM Incorporated ("Qualcomm")
Rural Telecommunications Group, Inc. ("RTG")
Vanu, Inc. ("Vanu")
Verizon Wireless ("Verizon Wireless")

Reply Comments

MetroPCS Communications, Inc. ("MetroPCS")
National Emergency Number Association ("NENA")
QUALCOMM Incorporated ("Qualcomm")

APPENDIX B

Final Rules

Parts 0, 1, 2, 27 and 90 of Title 47 of the Code of Federal Regulations are amended as follows:

1. The authority citation for Part 0 continues to read as follows:

AUTHORITY: Secs. 5, 48 Stat. 1068, as amended; 47 U.S.C. 155.

2. Section 0.181 is amended by adding a new paragraph (k) to read as follows:

§ 0.181 The Defense Commissioner.

* * * * *

(k) To decide, in response to a request by the Public Safety Broadband Licensee whether circumstances warrant emergency priority access by first responder public safety entities to the Upper 700 MHz D Block license spectrum.

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

AUTHORITY: 15 U.S.C. 79 *et seq.*; 47 U.S.C. 151, 154(i), 154(j), 155, 157, 225, 303(r), and 309.

4. Section 1.9005 is amended by revising paragraph (k) to read as follows:

§ 1.9005 Included services.

* * * * *

(k) The Wireless Communications Service in the 746 – 763 MHz, 775 – 793 MHz, and 805 – 806 MHz bands (part 27 of this chapter);

* * * * *

5. Section 1.946 is amended by revising paragraph (c) to read as follows:

§ 1.946 Construction and coverage requirements.

* * * * *

(c) *Termination of authorizations.* If a licensee fails to commence service or operations by the expiration of its construction period or to meet its coverage or substantial service obligations by the expiration of its coverage period, its authorization terminates automatically (in whole or in part as set forth in the service rules), without specific Commission action, on the date the construction or coverage period expires.

* * * * *

6. Section 1.955 is amended by revising paragraph (a)(2) to read as follows:

§ 1.955 Terminations of authorizations.

(a) * * *

(1) * * *

(2) *Failure to meet construction or coverage requirements.* Authorizations automatically terminate (in whole or in part as set forth in the service rules), without specific Commission action, if the licensee fails to meet applicable construction or coverage requirements. *See* § 1.946(c) of this part.

* * * * *

7. Section 1.2105 is amended by revising paragraph (c)(6) to read as follows:

§ 1.2105 Bidding application and certification procedures; prohibition of collusion.

* * * * *

(c) * * *

(6) Any applicant that makes or receives a communication of bids or bidding strategies prohibited under paragraph (c)(1) of this section shall report such communication in writing to the Commission immediately, and in no case later than five business days after the communication occurs. An applicant's obligation to make such a report continues until the report has been made. Such reports shall be filed with the Office of the Secretary, and a copy shall be sent to the Chief of the Auctions and Spectrum Access Division, Wireless Telecommunications Bureau.

* * * * *

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

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

9. Section 2.103 is amended by revising paragraphs (a) and (b) and adding a new paragraph (c) to read as follows:

§ 2.103 Federal use of non-Federal frequencies.

(a) Federal stations may be authorized to use non-Federal frequencies in the bands above 25 MHz (except the 763-775 MHz and 793-805 MHz public safety bands) if the Commission finds that such use is necessary for coordination of Federal and non-Federal activities: Provided, however, that:

* * * * *

(b) Federal stations may be authorized to use channels in the 769-775 MHz, 799-805 MHz and 4940-4990 MHz public safety bands with non-Federal entities if the Commission finds such use necessary; where:

* * * * *

(c) Federal stations may be authorized to use channels in the 763-768 MHz and 793-798 MHz public safety bands with non-Federal entities where:

(1) The Federal entity obtains the prior approval of the Public Safety Broadband Licensee (and such approval granted by the Public Safety Broadband Licensee is consistent with the terms and conditions of the Network Sharing Agreement under Section 90.1406); and

(2) Federal operation is in accordance with the Commission's Rules governing operation of this band and conforms to any conditions agreed upon by the Commission and NTIA.

10. 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.

11. Section 27.1 is amended by revising paragraph (b)(2) to read as follows:

§ 27.1 Basis and purpose.

* * * * *

(b) * * *

(2) 746–763 MHz, 775–793 MHz, and 805-806 MHz.

* * * * *

12. Section 27.2 is amended by revising paragraph (b) to read as follows:

§ 27.2 Permissible communications.

* * * * *

(b) *775–776 MHz and 805-806 MHz bands.* Operators in the 775–776 MHz and 805–806 MHz bands may not employ a cellular system architecture. A cellular system architecture is defined, for purposes of this part, as one that consists of many small areas or cells (segmented from a larger geographic service area), each of which uses its own base station, to enable frequencies to be reused at relatively short distances.

* * * * *

13. Section 27.4 is amended by adding the following definitions in alphabetical order to read as follows:

§ 27.4 Terms and definitions

* * * * *

700 MHz Public/Private Partnership. The public/private partnership established for the development and operation of a nationwide, shared interoperable wireless broadband network operating on the 758-763 MHz and 788-793 MHz bands and the 763-768 MHz and 793-798 MHz bands in accordance with the Commission's rules.

* * * * *

Network Assets Holder. The Network Assets Holder is a Special Purpose Bankruptcy Remote Entity that is formed to hold the assets of the shared wireless broadband network associated with the 700 MHz Public/Private Partnership, in accordance with the terms of the Network Sharing Agreement, such other agreements as the Commission may require or allow, and the Commission's rules.

* * * * *

Network Sharing Agreement (NSA). An agreement entered into between the winning bidder, the Upper 700 MHz D Block licensee, the Network Assets Holder, the Operating Company, the Public Safety Broadband Licensee, and any other related entities that the Commission may require or allow regarding the shared wireless broadband network associated with the 700 MHz Public/Private Partnership that will operate on the 758-763 MHz and 788-793 MHz bands and the 763-768 MHz and 793-798 MHz bands.

* * * * *

Operating Company. The Operating Company is a Special Purpose Bankruptcy Remote Entity that is formed to build and operate the shared wireless broadband network associated with the 700 MHz Public/Private Partnership, in accordance with the terms of the Network Sharing Agreement, such other agreements as the Commission may require or allow, and the Commission's rules.

* * * * *

Public Safety Broadband License. The Public Safety Broadband License authorizes public safety broadband services in the 763-768 MHz and 793-798 MHz bands.

* * * * *

Public Safety Broadband Licensee. The licensee of the Public Safety Broadband License in the 763-768 MHz and 793-798 MHz bands.

* * * * *

Shared Wireless Broadband Network. Wireless broadband network associated with the 700 MHz Band Public/Private Partnership that operates on the 758-763 MHz and 788-793 MHz bands and the 763-768 MHz and 793-798 MHz bands pursuant to the terms of the Network Sharing Agreement, such other agreements as the Commission may require or allow, and the Commission's rules.

* * * * *

Special Purpose Bankruptcy Remote Entity. A "special purpose entity" is a legal entity created for a special limited purpose, in this context primarily to hold the Upper 700 MHz D Block license or the network assets, or to conduct the construction or operation of the shared wireless broadband network associated with the 700 MHz Public/Private Partnership. A special purpose entity is "bankruptcy remote" if that entity is unlikely to become insolvent as a result of its own activities, is adequately insulated from the consequences of a related party's insolvency, and contains certain characteristics which enhance the likelihood that it will not become the subject of an insolvency proceeding.

* * * * *

Upper 700 MHz D Block license. The Upper 700 MHz D Block license is the nationwide license associated with the 758-763 MHz and 788-793 MHz bands.

* * * * *

Upper 700 MHz D Block licensee. The Special Purpose Bankruptcy Remote Entity to which the Upper 700 MHz D Block license must be transferred upon execution of the Network Sharing Agreement. References herein to the rights and obligations of the Upper 700 MHz D Block licensee include the exercise or discharge of such rights or obligations, respectively, by related entities as are provided for in the NSA or otherwise as authorized by the Commission.

* * * * *

14. Section 27.5 is amended by revising paragraph (b) to read as follows:

§ 27.5 Frequencies.

* * * * *

(b) *746–763 MHz, 775–793 MHz, and 805-806 MHz bands.* The following frequencies are available for licensing pursuant to this part in the 746-763 MHz, 775-793 MHz, and 805-806 MHz bands:

(1) Two paired channels of 1 megahertz each are available for assignment in Block A in the 757-758 MHz and 787-788 MHz bands.

(2) Two paired channels of 1 megahertz each are available for assignment in Block B in the 775-776 MHz and 805-806 MHz bands.

(3) Two paired channels of 11 megahertz each are available for assignment in Block C in the 746-757 MHz and 776-787 MHz bands. In the event that no licenses for two channels in this Block C are assigned based on the results of the first auction in which such licenses were offered because the auction results do not satisfy the applicable reserve price, the spectrum in the 746-757 MHz and 776-787 MHz bands will instead be made available for assignment at a subsequent auction as follows:

(i) Two paired channels of 6 megahertz each available for assignment in Block C1 in the 746-752 MHz and 776-782 MHz bands.

(ii) Two paired channels of 5 megahertz each available for assignment in Block C2 in the 752-757 MHz and 782-787 MHz bands.

(4) Two paired channels of 5 megahertz each are available for assignment in Block D in the 758-763 MHz and 788-793 MHz bands.

* * * * *

15. Section 27.6 is amended by revising paragraphs (a), (b), (c), and (e) to read as follows:

§ 27.6 Service Areas.

(a) WCS service areas include Economic Areas (EAs), Major Economic Areas (MEAs), Regional Economic Area Groupings (REAGs), cellular markets comprising Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs), and a nationwide area. MEAs and REAGs are defined in the Table immediately following paragraph (a)(1) of this section. Both MEAs and REAGs are based on the U.S. Department of Commerce's EAs. See 60 FR 13114 (March 10, 1995). In addition, the Commission shall separately license Guam and the Northern Mariana Islands, Puerto Rico and the United States Virgin Islands, American Samoa, and the Gulf of Mexico, which have been assigned Commission-created EA numbers 173–176, respectively. The nationwide area is composed of the contiguous 48 states, Alaska, Hawaii, the Gulf of Mexico, and the U.S. territories. Maps of the EAs, MEAs, MSAs, RSAs, and REAGs and the Federal Register Notice that established the 172 EAs are available for public inspection and copying at the Reference Information Center, Consumer and Governmental Affairs Bureau, Federal Communications Commission, 445 12th Street, SW, Washington, DC 20554. * * *

* * * * *

(b) *746–763 MHz, 775–793 MHz, and 805-806 MHz bands.* WCS service areas for the 746-763 MHz, 775-793 MHz, and 805-806 MHz bands are as follows.

(1) Service areas for Block A in the 757-758 MHz and 787-788 MHz bands and Block B in the 775-776 MHz and 805-806 MHz bands are based on Major Economic Areas (MEAs), as defined in paragraphs (a)(1) and (a)(2) of this section.

(2) Service areas for Block C in the 746-757 MHz and 776-787 MHz bands are based on Regional Economic Area Groupings (REAGs) as defined by paragraph (a) of this section. In the event that no licenses with respect to service areas for Block C in the 746-757 MHz and 776-787 MHz bands are assigned based on the results of the first auction in which such licenses are offered because the auction results do not satisfy the applicable reserve price, then service areas for the spectrum at 746-757 MHz and 776-787 MHz will instead be available for assignment as follows:

(i) Service areas for Block C1 in the 746-752 MHz and 776-782 MHz bands are based on Economic Areas (EAs) as defined in paragraph (a) of this section.

(ii) Service areas for Block C2 in the 752-757 MHz and 782-787 MHz bands are based on Regional Economic Area Groupings (REAGs) as defined by paragraph (a) of this section.

(3) Service area for Block D in the 758-763 MHz and 788-793 MHz bands is a nationwide area as defined in paragraph (a)(1) of this section.

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

(1) Service areas for Block A in the 698-704 MHz and 728-734 MHz bands and Block E in the 722-728 MHz band are based on Economic Areas (EAs) as defined in paragraph (a) of this section.

(2) Service areas for Block B in the 704-710 MHz and 734-740 MHz bands and Block C in the 710-716 MHz and 740-746 MHz bands are based on cellular markets comprising Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs) as defined by Public Notice Report No. CL–92–40 "Common Carrier Public Mobile Services Information, Cellular MSA/RSA Markets and Counties," dated January 24, 1992, DA 92–109, 7 FCC Rcd 742 (1992), with the following modifications:

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

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

(3) Service areas for Block D in the 716-722 MHz band are based on Economic Area Groupings (EAGs) as defined by the Federal Communications Commission. See 62 FR 15978 (April 3, 1997) extended with the Gulf of Mexico. See also paragraphs (a)(1) and (a)(2) of this section and 62 FR 9636 (March 3, 1997), in which the Commission created an additional four economic area-like areas for a total of 176. Maps of the EAGs and the Federal Register Notice that established the 172 Economic Areas (EAs) are available for public inspection and copying at the Reference Center, Room CY A-257, 445 12th St., S.W., Washington, DC 20554. These maps and data are also available on the FCC website at www.fcc.gov/oet/info/maps/areas/.

(i) There are 6 EAGs, which are composed of multiple EAs as defined in the table below:

Economic Area	Name	Economic Areas

Groupings		
EAG001	Northeast	1-11, 54
EAG002	Mid-Atlantic	12-26, 41, 42, 44-53, 70
EAG003	Southeast	27-40, 43, 69, 71-86, 88-90, 95, 96, 174, 176(part)
EAG004	Great Lakes	55-68, 97, 100-109
EAG005	Central/Mountain	87, 91-94, 98, 99, 110-146, 148, 149, 152, 154-159, 176(part)
EAG006	Pacific	147, 150, 151, 153, 160-173, 175

Note 1 to paragraph (c)(3)(i): Economic Area Groupings are defined by the Federal Communications Commission; see 62 FR 15978 (April 3, 1997) extended with the Gulf of Mexico.

Note 2 to paragraph (c)(3)(i): Economic Areas are defined by the Regional Economic Analysis Division, Bureau of Economic Analysis, U.S. Department of Commerce February 1995 and extended by the Federal Communications Commission, see 62 FR 9636 (March 3, 1997).

(ii) For purposes of paragraph (c)(3)(i) of this section, EA 176 (the Gulf of Mexico) will be divided between EAG003 (the Southeast EAG) and EAG005 (the Central/Mountain EAG) in accordance with the configuration of the Eastern/ Central and Western Planning Area established by the Mineral Management Services Bureau of the Department of the Interior (MMS). That portion of EA 176 contained in the Eastern and Central Planning Areas as defined by MMS will be included in EAG003; that portion of EA 176 contained in the Western Planning Area as defined by MMS will be included in EAG005. Maps of these areas may be found on the MMS website. www.gomr.mms.gov/homepg/offshore/offshore.html.

* * * * *

(e) *The paired 1392–1395 and 1432–1435 MHz bands.* Service areas for the paired 1392–1395 and 1432–1435 MHz bands are as follows. Service areas for Block A in the 1392–1393.5 MHz and 1432–1433.5 MHz bands and Block B in the 1393.5–1395 MHz and 1433.5–1435 MHz bands are based on Economic Area Groupings (EAGs) as defined in paragraph (c)(3) of this section.

* * * * *

16. Section 27.11 is amended by revising paragraphs (c) and (d) to read as follows:

§ 27.11 Initial authorization.

* * * * *

(c) *746–763 MHz, 775–793 MHz, and 805-806 MHz bands.* Initial authorizations for the 746–763 MHz, 775–793 MHz, and 805-806 MHz bands shall be for paired channels of 1, 5, 6, or 11 megahertz of spectrum in accordance with §27.5(b).

(1) Authorizations for Block A, consisting of two paired channels of 1 megahertz each, will be based on those geographic areas specified in §27.6(b)(1).

(2) Authorizations for Block B, consisting of two paired channels of 1 megahertz each, will be based on those geographic areas specified in §27.6(b)(1).

(3) Authorizations for Block C, consisting of two paired channels of 11 megahertz each, will be based on those geographic areas specified in §27.6(b)(2). In the event that no licenses granting authorizations for Block C, consisting of two paired channels of 11 megahertz each, are assigned based on the results of the first auction in which such licenses are offered because the auction results

do not satisfy the applicable reserve price, then the authorizations for the spectrum in the 746-757 MHz and 776-787 MHz bands will instead be as follows:

(i) Authorizations for Block C1, consisting of two paired channels of 6 megahertz each in the 746-752 MHz and 776-782 MHz bands, will be based on those geographic areas specified in §27.6(b)(2)(i).

(ii) Authorizations for Block C2, consisting of two paired channels of 5 megahertz each in the 752-757 MHz and 782-787 MHz bands, will be based on those geographic areas specified in §27.6(b)(2)(ii).

(4) The authorization for Block D, consisting of two paired channels of 5 megahertz each, will be based on the geographic area specified in §27.6(b)(3).

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

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

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

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

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

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

* * * * *

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

§ 27.13 License Period.

* * * * *

(b) 698-763 MHz and 776-793 MHz bands. Initial authorizations for the 698-763 MHz and 776-793 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 775-776 MHz and 805-806 MHz bands shall not exceed January 1, 2015. * * *

18. Section 27.14 is amended by revising the title and paragraph (a), redesignating paragraph (e) as paragraph (f), and by adding new paragraphs (e), (g), (h), (i), (j), (k), (l), (m), (n) to read as follows:

§ 27.14 Construction requirements; Criteria for Renewal.

(a) AWS and WCS licensees, with the exception of WCS licensees holding authorizations for Block A in the 698-704 MHz and 728-734 MHz bands, Block B in the 704-710 MHz and 734-740 MHz bands, Block E in the 722-728 MHz band, Block C in the 746-757 MHz and 776-787 MHz, and Block D in the 758-763 MHz and 788-793 MHz bands must, as a performance requirement, make a

showing of "substantial service" in their license area within the prescribed license term set forth in § 27.13. "Substantial service is defined as service which is sound, favorable and substantially above a level of mediocre service which just might minimally warrant renewal. Failure by any licensee to meet this requirement will result in forfeiture of the license and the licensee will be ineligible to regain it.

* * * * *

(e) Comparative renewal proceedings do not apply to WCS licensees holding authorizations for the 698-757 MHz, 758-763 MHz, 776-787 MHz, and 788-793 MHz bands. These licensees must file a renewal application in accordance with the provisions set forth in § 1.949, and must make a showing of substantial service, independent of its performance requirements, as a condition for renewal at the end of each license term.

* * * * *

(g) WCS licensees holding EA authorizations for Block A in the 698-704 MHz and 728-734 MHz bands, cellular market authorizations for Block B in the 704-710 MHz and 734-740 MHz bands, and EA authorizations for Block E in the 722-728 MHz band, if the results of the first auction in which licenses for such authorizations are offered satisfy the reserve price for the applicable block, shall provide signal coverage and offer service over at least 35 percent of the geographic area of each of their license authorizations no later than February 17, 2013 (or within four years of initial license grant if the initial authorization in a market is granted after February 17, 2009), and shall provide such service over at least 70 percent of the geographic area of each of these authorizations by the end of the license term. In applying these geographic benchmarks, licensees are not required to include land owned or administered by government as a part of the relevant service area. Licensees may count covered government land for purposes of meeting their geographic construction benchmark, but are required to add the covered government land to the total geographic area used for measurement purposes. Licensees are required to include those populated lands held by tribal governments and those held by the Federal Government in trust or for the benefit of a recognized tribe.

(1) If an EA or CMA licensee holding an authorization in these particular blocks fails to provide signal coverage and offer service over at least 35 percent of the geographic area of its license authorization by no later than February 17, 2013 (or within four years of initial license grant, if the initial authorization in a market is granted after February 17, 2009), the term of that license authorization will be reduced by two years and such licensee may be subject to enforcement action, including forfeitures. In addition, such an EA or CMA licensee may lose authority to operate in part of the remaining unserved areas of the license.

(2) If any such EA or CMA licensee fails to provide signal coverage and offer service to at least 70 percent of the geographic area of its license authorization by the end of the license term, that licensee's authorization will terminate automatically without Commission action for those geographic portions of its license in which the licensee is not providing service, and those unserved areas will become available for reassignment by the Commission. Such licensee may also be subject to enforcement action, including forfeitures. In addition, an EA or CMA licensee that provides signal coverage and offers service at a level that is below the end-of-term benchmark may be subject to license termination. In the event that a licensee's authority to operate in a license area terminates automatically without Commission action, such areas will become available for reassignment pursuant to the procedures in paragraph (j) of this subsection.

(3) For licenses under paragraphs (g), (h), and (i), the geographic service area to be made available to new entrants must include a contiguous area of at least 130 square kilometers (50 square miles), and areas smaller than a contiguous area of at least 130 square kilometers (50 square miles) will not be deemed unserved.

(h) WCS licensees holding authorizations for Block C in the 746-757 MHz and 776-787 MHz bands shall provide signal coverage and offer service over at least 40 percent of the population in each EA comprising the REAG license area no later than February 17, 2013 (or within four years of initial license grant, if the initial authorization in a market is granted after February 17, 2009), and shall provide such service over at least 75 percent of the population of each of these EAs by the end of the license term. For purposes of compliance with this requirement, licensees should determine population based on the most recently available U.S. Census Data.

(1) If a licensee holding a Block C authorization fails to provide signal coverage and offer service over at least 40 percent of the population in each EA comprising the REAG license area by no later than February 17, 2013 (or within four years of initial license grant if the initial authorization in a market is granted after February 17, 2009), the term of the license authorization will be reduced by two years and such licensee may be subject to enforcement action, including forfeitures. In addition, a licensee that provides signal coverage and offers service at a level that is below the interim benchmark may lose authority to operate in part of the remaining unserved areas of the license.

(2) If a licensee holding a Block C authorization fails to provide signal coverage and offer service over at least 75 percent of the population in any EA comprising the REAG license area by the end of the license term, for each such EA that licensee's authorization will terminate automatically without Commission action for those geographic portions of its license in which the licensee is not providing service. Such licensee may also be subject to enforcement action, including forfeitures. In the event that a licensee's authority to operate in a license area terminates automatically without Commission action, such areas will become available for reassignment pursuant to the procedures in paragraph (j) of this subsection. In addition, a REAG licensee that provides signal coverage and offers service at a level that is below the end-of-term benchmark within any EA may be subject to license termination within that EA.

(i) WCS licensees holding EA authorizations for Block A in the 698-704 MHz and 728-734 MHz bands, cellular market authorizations for Block B in the 704-710 MHz and 734-740 MHz bands, and EA authorizations for Block E in the 722-728 MHz band, if the results of the first auction in which licenses for such authorizations in Blocks A, B, and E are offered do not satisfy the reserve price for the applicable block, as well as EA authorizations for Block C1 in the 746-752 MHz and 776-782 MHz bands and REAG authorizations for Block C2 in the 752-757 MHz and 782-787 MHz bands, are subject to the following:

(1) If a licensee holding a cellular market area or EA authorization subject to this paragraph (i) fails to provide signal coverage and offer service over at least 40 percent of the population in its license area by no later than February 17, 2013 (or within four years of initial license grant, if the initial authorization in a market is granted after February 17, 2009), the term of that license authorization will be reduced by two years and such licensee may be subject to enforcement action, including forfeitures. In addition, such licensee that provides signal coverage and offers service at a level that is below the interim benchmark may lose authority to operate in part of the remaining unserved areas of the license. For purposes of compliance with this requirement, licensees should determine population based on the most recently available U.S. Census Data.

(2) If a licensee holding a cellular market area or EA authorization subject to this paragraph (i) fails to provide signal coverage and offer service over at least 75 percent of the population in its license area by the end of the license term, that licensee's authorization will terminate automatically without Commission action for those geographic portions of its license in which the licensee is not providing service, and those unserved areas will become available for reassignment by the Commission. Such licensee may also be subject to enforcement action, including forfeitures. In the event that a licensee's authority to operate in a license area terminates automatically without Commission action, such areas will become available for reassignment pursuant to the procedures in paragraph (j) of this subsection. In addition, such a licensee that provides signal coverage and offers service at a level that is below the end-of-term benchmark may be subject to license termination. For

purposes of compliance with this requirement, licensees should determine population based on the most recently available U.S. Census Data.

(3) Licensee's holding an authorization in Block C2 will be subject to the requirements in paragraph (h) of this subsection.

(j) In the event that a licensee's authority to operate in a license area terminates automatically under subsections (g), (h), or (i) of this section, such areas will become available for reassignment pursuant to the following procedures:

(1) The Wireless Telecommunications Bureau is delegated authority to announce by public notice that these license areas will be made available and establish a 30-day window during which third parties may file license applications to serve these areas. During this 30-day period, licensees that had their authority to operate terminate automatically for unserved areas may not file applications to provide service to these areas. Applications filed by third parties that propose areas overlapping with other applications will be deemed mutually exclusive, and will be resolved through an auction. The Wireless Telecommunications Bureau, by public notice, may specify a limited period before the filing of short-form applications (FCC Form 175) during which applicants may enter into a settlement to resolve their mutual exclusivity, subject to the provisions of § 1.935.

(2) Following this 30-day period, the original licensee and third parties can file license applications for remaining unserved areas where licenses have not been issued or for which there are no pending applications. If the original licensee or a third party files an application, that application will be placed on public notice for 30 days. If no mutually exclusive application is filed, the application will be granted, provided that a grant is found to be in the public interest. If a mutually exclusive application is filed, it will be resolved through an auction. The Wireless Telecommunications Bureau, by public notice, may specify a limited period before the filing of short-form applications (FCC Form 175) during which applicants may enter into a settlement to resolve their mutual exclusivity, subject to the provisions of § 1.935.

(3) The licensee will have one year from the date the new license is issued to complete its construction and provide signal coverage and offer service over 100 percent of the geographic area of the new license area. If the licensee fails to meet this construction requirement, its license will automatically terminate without Commission action and it will not be eligible to apply to provide service to this area at any future date.

(k) WCS licensees with authorizations in the spectrum blocks enumerated in paragraphs (g), (h), or (i), including any licensee that obtained its license pursuant to the procedures set forth in subsection (j) shall demonstrate compliance with performance requirements by filing a construction notification with the Commission, within 15 days of the expiration of the relevant benchmark, in accordance with the provisions set forth in § 1.946(d). The licensee must certify whether it has met the relevant performance requirement. All licensees must file a description and certification of the areas for which they are providing service. The construction notifications must include electronic coverage maps, supporting technical documentation and any other information as the Wireless Telecommunications Bureau may prescribe by Public Notice.

(l) WCS licensees with authorizations in the spectrum blocks enumerated in paragraphs (g), (h), or (i), excluding any licensee that obtained its license pursuant to the procedures set forth in subsection (j), shall file interim reports with the Commission that provide the Commission, at a minimum, with information concerning the status of their efforts to meet the performance requirements applicable to their authorizations in such spectrum blocks and the manner in which that spectrum is being utilized. The information to be reported will include the date the license term commenced, a description of the steps the licensee has taken toward meeting its construction obligations in a timely manner, including the technology or technologies and service(s) being

provided, and the areas within their license areas in which those services are available. These licensees shall file their first interim report with the Commission no later than February 17, 2011 and no sooner than 30 days prior to this date. Licensees that meet their interim benchmarks shall file a second interim report with the Commission no later than February 17, 2016 and no sooner than 30 days prior to this date. Licensees that do not meet their interim benchmarks shall file their second interim report no later than on February 17, 2015 and no sooner than 30 days prior to this date.

(m) The WCS licensee holding the authorization for the D Block at 758-763 MHz and 788-793 MHz (the Upper 700 MHz D Block licensee) shall comply with the following construction requirements.

(1) The Upper 700 MHz D Block licensee shall provide a signal coverage and offer service over at least 75 percent of the population of the nationwide Upper 700 MHz D Block license area within four years from February 17, 2009, 95 percent of the population of the nationwide license area within seven years, and 99.3 percent of the population of the nationwide license area within ten years.

(2) The Upper 700 MHz D Block licensee may modify, to a limited degree, its population-based construction benchmarks with the agreement of the Public Safety Broadband Licensee and the prior approval of the Commission, where such a modification would better serve to meet commercial and public safety needs.

(3) The Upper 700 MHz D Block licensee shall meet the population benchmarks based on a performance schedule specified in the Network Sharing Agreement, taking into account performance pursuant to §27.1327 as appropriate under that rule, and using the most recently available U.S. Census Data. The network and signal levels employed to meet these benchmarks must be adequate for public safety use, as defined in the Network Sharing Agreement, and the services made available must include those appropriate for public safety entities that operate in those areas. The schedule shall include coverage for major highways and interstates, as well as such additional areas that are necessary to provide coverage for all incorporated communities with a population in excess of 3,000, unless the Public Safety Broadband Licensee and the D Block licensee jointly determine, in consultation with a relevant community, that such additional coverage will not provide significant public benefit.

(4) The Upper 700 MHz D Block licensee shall demonstrate compliance with performance requirements by filing a construction notification with the Commission within 15 days of the expiration of the relevant benchmark, in accordance with the provisions set forth in § 1.946(d). The licensee must certify whether it has met the relevant performance requirement and must file a description and certification of the areas for which it is providing service. The construction notifications must include the following:

(i) Certifications of the areas that were scheduled for construction and service by that date under the Network Sharing Agreement for which it is providing service, the type of service it is providing for each area, and the type of technology it is utilizing to provide this service.

(ii) Electronic coverage maps and supporting technical documentation providing the assumptions used by the licensee to create the coverage maps, including the propagation model and the signal strength necessary to provide service.

(n) At the end of its license term, the Upper 700 MHz D Block licensee must, in order to renew its license, make a showing of its success in meeting the material requirements set forth in the Network Sharing Agreement as well as all other license conditions, including the performance benchmark requirements set forth in § 27.14.

* * * * *

19. Section 27.15 is amended by revising and redesignating paragraphs (d)(1) and (d)(2) as (d)(1)(i) and (d)(2)(i), respectively; and adding new paragraphs (d)(1)(ii) and (d)(2)(ii), respectively, to read as follows:

§ 27.15 Geographic partitioning and spectrum disaggregation.

* * * * *

(d) *Compliance with construction requirements.*

(1) *Partitioning.*

(i) Except for WCS licensees holding authorizations for Block A in the 698-704 MHz and 728-734 MHz bands, Block B in the 704-710 MHz and 734-740 MHz bands, Block E in the 722-728 MHz band, Blocks C, C1, and C2 in the 746-757 MHz and 776-787 MHz bands, and Block D in the 758-763 MHz and 788-793 MHz bands, the following rules apply to WCS and AWS licensees holding authorizations for purposes of implementing the construction requirements set forth in §27.14. * * *

(ii) For WCS licensees holding authorizations for Block A in the 698-704 MHz and 728-734 MHz bands, Block B in the 704-710 MHz and 734-740 MHz bands, Block E in the 722-728 MHz band, and Blocks C, C1, and C2 in the 746-757 MHz and 776-787 MHz bands, the following rules apply for purposes of implementing the construction requirements set forth in § 27.14. Parties to partitioning agreements have two options for satisfying the construction requirements set forth in § 27.14. Under the first option, the partitioner and partitionee each certifies that they will collectively share responsibility for meeting the construction requirement for the entire pre-partition geographic license area. If the partitioner and partitionee collectively fail to meet the construction requirement, then both the partitioner and partitionee will be subject to the consequences enumerated in § 27.14(g)-(h) for this failure. Under the second option, the partitioner and partitionee each certifies that it will independently meet the construction requirement for its respective partitioned license area. If the partitioner or partitionee fails to meet the construction requirement for its respective partitioned license area, then the consequences for this failure shall be those enumerated in § 27.14(g)-(h).

(2) *Disaggregation.*

(i) Except for WCS licensees holding authorizations for Block A in the 698-704 MHz and 728-734 MHz bands, Block B in the 704-710 MHz and 734-740 MHz bands, Block E in the 722-728 MHz band, and Blocks C, C1, and C2 in the 746-757 MHz and 776-787 MHz bands, and Block D in the 758-763 MHz and 788-793 MHz bands, the following rules apply to WCS and AWS licensees holding authorizations for purposes for purposes of implementing the construction requirements set forth in §27.14. * * *

(ii) For WCS licensees holding authorizations for Block A in the 698-704 MHz and 728-734 MHz bands, Block B in the 704-710 MHz and 734-740 MHz bands, Block E in the 722-728 MHz band, and Blocks C, C1, and C2 in the 746-757 MHz and 776-787 MHz bands, the following rules apply for purposes of implementing the construction requirements set forth in § 27.14. If either the disaggregator or the disaggregatee meets the construction requirements set forth in § 27.14, then these requirements will be considered to be satisfied for both parties. If neither the disaggregator nor the disaggregatee meets the construction requirements, then both parties will be subject to the consequences enumerated in § 27.14(g)-(h) for this failure.

20. Part 27 is amended by adding new Section 27.16 to read as follows:

§ 27.16 Network access requirements for Block C in the 746-757 and 776-787 MHz bands.

(a) *Applicability.* This section shall apply only to the authorizations for Block C in the 746-757 and 776-787 MHz bands assigned and only if the results of the first auction in which licenses for such

authorizations are offered satisfied the applicable reserve price.

(b) *Use of devices and applications.* Licensees offering service on spectrum subject to this section shall not deny, limit, or restrict the ability of their customers to use the devices and applications of their choice on the licensee's C Block network, except:

(1) Insofar as such use would not be compliant with published technical standards reasonably necessary for the management or protection of the licensee's network, or

(2) As required to comply with statute or applicable government regulation.

(c) *Technical standards.* For purposes of subsection (b)(1):

(1) Standards shall include technical requirements reasonably necessary for third parties to access a licensee's network via devices or applications without causing objectionable interference to other spectrum users or jeopardizing network security. The potential for excessive bandwidth demand alone shall not constitute grounds for denying, limiting or restricting access to the network.

(2) To the extent a licensee relies on standards established by an independent standards-setting body which is open to participation by representatives of service providers, equipment manufacturers, application developers, consumer organizations, and other interested parties, the standards will carry a presumption of reasonableness.

(3) A licensee shall publish its technical standards, which shall be non-proprietary, no later than the time at which it makes such standards available to any preferred vendors, so that the standards are readily available to customers, equipment manufacturers, application developers, and other parties interested in using or developing products for use on a licensee's networks.

(d) *Access requests.*

(1) Licensees shall establish and publish clear and reasonable procedures for parties to seek approval to use devices or applications on the licensees' networks. A licensee must also provide to potential customers notice of the customers' rights to request the attachment of a device or application to the licensee's network, and notice of the licensee's process for customers to make such requests, including the relevant network criteria.

(2) If a licensee determines that a request for access would violate its technical standards or regulatory requirements, the licensee shall expeditiously provide a written response to the requester specifying the basis for denying access and providing an opportunity for the requester to modify its request to satisfy the licensee's concerns.

(e) *Handset locking prohibited.* No licensee may disable features on handsets it provides to customers, to the extent such features are compliant with the licensee's standards pursuant to §27.16(b), nor configure handsets it provides to prohibit use of such handsets on other providers' networks.

(f) *Burden of proof.* Once a complainant sets forth a *prima facie* case that the C Block licensee has refused to attach a device or application in violation of the requirements adopted in this section, the licensee shall have the burden of proof to demonstrate that it has adopted reasonable network standards and reasonably applied those standards in the complainant's case. Where the licensee bases its network restrictions on industry-wide consensus standards, such restrictions would be presumed reasonable.

16. Section 27.50 is amended by revising paragraphs (b) and (c) and the tables at the end of the section to read as follows:

§ 27.50 Power and antenna height limits.

* * * * *

(b) * * *

(1) Fixed and base stations transmitting a signal in the 757-758 and 775-776 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 746-757 MHz, 758-763 MHz, 776-787 MHz, and 788-793 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 746-757 MHz, 758-763 MHz, 776-787 MHz, and 788-793 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 746-757 MHz, 758-763 MHz, 776-787 MHz, and 788-793 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 746-757 MHz, 758-763 MHz, 776-787 MHz, and 788-793 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 746-757 MHz, 758-763 MHz, 776-787 MHz, and 788-793 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 746-757 MHz, 758-763 MHz, 776-787 MHz, and 788-793 MHz bands at an ERP greater than 1000 watts must:

(i) coordinate in advance with all licensees authorized to operate in the 698-763 MHz, 775-793, and 805-806 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 746-757 MHz, 758-763 MHz, 776-787 MHz, and 788-793 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 763-775 MHz and 793-805 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.

(9) Control stations and mobile stations transmitting in the 746–757 MHz, 758-763 MHz, 776–793 MHz, and 805-806 MHz bands and fixed stations transmitting in the 787–788 MHz and 805-806 MHz bands are limited to 30 watts ERP.

(10) Portable stations (hand-held devices) transmitting in the 746–757 MHz, 758-763 MHz, 776–793 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

(11) For transmissions in the 757-758, 775-776, 787-788, and 805-806 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 746-757, 758-763, 776-787, and 788-793 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) * * *

(2) * * *

(3) * * *

(4) * * *

(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 698-763 MHz, 775-793, and 805-806 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) * * *

(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 757-758 and 775-776 MHz Bands and for Base and Fixed Stations in the 698-757 MHz, 758-763 MHz, 776-787 MHz and 788-793 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 698-757 MHz, 758-763 MHz, 776-787 MHz and 788-793 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 698-757 MHz, 758-763 MHz, 776-787 MHz and 788-793 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 698-757 MHz, 758-763 MHz, 776-787 MHz and 788-793 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

21. Section 27.53 is amended by adding a new paragraph (d), re-designating paragraphs (d)–(m) as paragraphs (e)-(n), revising paragraph (c), new paragraph (f), and new paragraph (e), and re-designating paragraphs (e)(1) to (e)(4) as paragraphs (e)(6) to (e)(9) to read as follows:

§ 27.53 Emission limits.

* * * * *

(c) For operations in the 746 to 758 MHz band and the 776 to 788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On any frequency outside the 746 to 758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(2) On any frequency outside the 776 to 788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(3) On all frequencies between 763 to 775 MHz and 793 to 805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763 to 775 MHz and 793 to 805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

* * * * *

(d) For operations in the 758-763 MHz and 788-793 MHz bands, the power of any emission outside the licensee's frequency bands of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On all frequencies between 769 to 775 MHz and 799 to 805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;

(2) On all frequencies between 769 to 775 MHz and 799 to 805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

(3) On any frequency between 775 to 788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB;

(4) Compliance with the provisions of paragraph (d)(1) and d(2) of this section is based on the use of measurement **instrumentation** such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment;

(5) Compliance with the provisions of paragraph (d)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed.

(e) For operations in the 775–776 MHz and 805–806 MHz bands, transmitters must comply with either paragraphs (e)(1) to (e)(5) of this section or the ACP emission limitations set forth in paragraphs (e)(6) to (e)(9) of this section.

(1) On all frequencies between 763 to 775 MHz and 793 to 805 MHz, the power of any emission outside the licensee's frequency bands of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;

(2) On all frequencies between 763 to 775 MHz and 793 to 805 MHz, the power of any emission outside the licensee's frequency bands of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

(3) On any frequency outside the 775 to 776 MHz and 805 to 806 MHz bands, the power of any emission shall be attenuated outside the band below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB;

(4) Compliance with the provisions of paragraph (e)(1) and (e)(2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment;

(5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed.

* * * * *

(f) For operations in the 746–763 MHz, 775–793 MHz, and 805-806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to –70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and –80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

* * * * *

22. Section 27.55 is amended by revising paragraphs (a)(2) and (c) to read as follows:

§ 27.55 Power strength limits.

(a) * * *

(1) * * *

(2) 698–758 and 775–787 MHz bands: 40 dBμV/m.

* * * * *

(c) *Power flux density limit for stations operating in the 746-757 MHz, 758-763 MHz, 776-787 MHz, and 788-793 MHz bands.* For base and fixed stations operating in the 746-757 MHz, 758-763 MHz, 776-787 MHz, and 788-793 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.

23. Section 27.57 is amended by revising paragraph (b) to read as follows:

§ 27.57 International coordination.

* * * * *

(b) Operation in the 698–763 MHz, 775–793 MHz, and 805-806 MHz bands is subject to international agreements between Mexico and Canada. Unless otherwise modified by international treaty, licenses must not cause interference to, and must accept harmful interference from, television broadcast operations in Mexico and Canada.

* * * * *

24. Section 27.60 is amended to read as follows:

§ 27.60 TV/DTV interference protection criteria.

Base, fixed, control, and mobile transmitters in the 698–763 MHz, 775–793 MHz, and 805-806 MHz frequency bands must be operated only in accordance with the rules in this section to reduce the potential for interference to public reception of the signals of existing TV and DTV broadcast stations transmitting on TV Channels 51 through 68.

(a) *D/U ratios.* Licensees must choose site locations that are a sufficient distance from co-channel and adjacent channel TV and DTV stations, and/or must use reduced transmitting power or transmitting antenna height such that the following minimum desired signal-to-undesired signal ratios (D/U ratios) are met.

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

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

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

(iii) For transmitters operating in the 746–763 MHz, 775–793 MHz, and 805-806 MHz frequency bands, 17 dB at the equivalent Grade B contour (41 dBμV/m) (88.5 kilometers (55 miles)) of the DTV station.

(2) The minimum D/U ratio for adjacent channel stations is 0 dB at the hypothetical Grade B contour (64 dBμV/m) (88.5 kilometers (55 miles)) of the TV station or –23 dB at the equivalent Grade B contour (41 dBμV/m) (88.5 kilometers (55 miles)) of the DTV station.

(b) *TV stations and calculation of contours.* The methods used to calculate TV contours and antenna heights above average terrain are given in §§73.683 and 73.684 of this chapter. Tables to determine the necessary minimum distance from the 698–763 MHz, 775–793 MHz, and 805-806 MHz station to the TV/DTV station, assuming that the TV/DTV station has a hypothetical or equivalent Grade B contour of 88.5 kilometers (55 miles), are located in §90.309 of this chapter and labeled as Tables B, D, and E. Values between those given in the tables may be determined by linear interpolation. Distances for station parameters greater than those indicated in the tables should be calculated in accordance with the required D/U ratios, as provided in paragraph (a) of this section. The locations of existing and proposed TV/DTV stations during the period of transition from analog to digital TV service are given in part 73 of this chapter and in the final proceedings of MM Docket No. 87–268.

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

(i) Utilize the geographic separation specified in Tables B, D, and E of §90.309 of this chapter, as appropriate;

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

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

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

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

(i) Base and fixed stations that operate in the 746–763 MHz, 775–787 MHz, and 788-793 MHz bands having an antenna height (HAAT) less than 152 m. (500 ft.) shall afford protection to co-channel and adjacent channel TV/DTV stations in accordance with the values specified in Table B (co-channel frequencies based on 40 dB protection) and Table E (adjacent channel frequencies based on 0 dB protection) in §90.309 of this chapter. Base and fixed stations that operate in the 698–746 MHz band having an antenna height (HAAT) less than 152 m. (500 ft.) shall afford protection to adjacent channel DTV stations in accordance with the values specified in Table E in §90.309 of this chapter, shall afford protection to co-channel DTV stations by providing 23 dB protection to such stations' equivalent Grade B contour (41 dBμV/m), and shall afford protection to co-channel and adjacent channel TV stations in accordance with the values specified in Table B (co-channel frequencies based on 40 dB protection) and Table E (adjacent channel frequencies based on 0 dB protection) in §90.309 of this chapter. For base and fixed stations having an antenna height (HAAT) between 152–914 meters (500–3,000 ft.) the effective radiated power must be reduced below 1 kilowatt in accordance with the values shown in the power reduction graph in Figure B in §90.309 of this chapter. For heights of more than 152 m. (500 ft.) above average terrain, the distance to the radio path horizon will be calculated assuming smooth earth. If the distance so determined equals or exceeds the distance to the hypothetical or equivalent Grade B contour of a co-channel TV/DTV station (i.e. , it exceeds the distance from the appropriate Table in §90.309 of this chapter to the relevant TV/DTV station), an authorization will not be granted unless it can be shown in an engineering study (see paragraph (b)(1)(iii) of this section) that actual terrain considerations are such

as to provide the desired protection at the actual Grade B contour (64 dBμV/m for TV and 41 dBμV/m for DTV stations) or unless the effective radiated power will be further reduced so that, assuming free space attenuation, the desired protection at the actual Grade B contour (64 dBμV/m for TV and 41 dBμV/m coverage contour for DTV stations) will be achieved. Directions for calculating powers, heights, and reduction curves are listed in §90.309 of this chapter for land mobile stations. Directions for calculating coverage contours are listed in §§73.683 through 73.685 of this chapter for TV stations and in §73.625 of this chapter for DTV stations.

(ii) Control, fixed, and mobile stations (including portables) that operate in the 787-788 MHz and 805-806 MHz bands and control and mobile stations (including portables) that operate in the 698–757 MHz, 758-763 MHz, 776–787 MHz, and 788-793 MHz bands are limited in height and power and therefore shall afford protection to co-channel and adjacent channel TV/DTV stations in the following manner:

(A) For control, fixed, and mobile stations (including portables) that operate in the 787-788 MHz and 805–806 MHz bands and control and mobile stations (including portables) that operate in the 746-757 MHz, 758-763 MHz, 776-787 MHz, and 788-793 MHz bands, co-channel protection shall be afforded in accordance with the values specified in Table D (co-channel frequencies based on 40 dB protection for TV stations and 17 dB for DTV stations) in §90.309 of this chapter.

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

(C) For control, fixed, and mobile stations (including portables) that operate in the 787-788 MHz and 805–806 MHz bands and control and mobile stations (including portables) that operate in the 698-757 MHz, 758-763 MHz, 776-787 MHz, and 788-793 MHz bands, adjacent channel protection shall be afforded by providing a minimum distance of 8 kilometers (5 miles) from all adjacent channel TV/DTV station hypothetical or equivalent Grade B contours (adjacent channel frequencies based on 0 dB protection for TV stations and –23 dB for DTV stations).

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

* * * * *

25. Section 27.70 is amended by revising paragraphs (a) and (b) to read as follows:

§ 27.70 Information exchange.

(a) *Prior notification.* Public safety licensees authorized to operate in the 763-775 MHz and 793-805 MHz bands may notify any licensee authorized to operate in the 746-757, 758-763, 776-787, or 788-793 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 746-757, 758-763, 776-787, or 788-793 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:

* * * * *

(b) * * *

(1) Allow a public safety licensee to advise the 746-757, 758-763, 776-787, or 788-793 MHz band licensee whether it believes a proposed base or fixed station will generate unacceptable interference;

(2) Permit 746-757, 758-763, 776-787, and 788-793 MHz band licensees to make voluntary changes in base or fixed station parameters when a public safety licensee alerts them to possible interference; and,

* * * * *

26. Section 27.303 (a) is amended to read as follows:

§ 27.303 Upper 700 MHz commercial and public safety coordination zone.

(a) General. CMRS operators are required, prior to commencing operations on fixed or base station transmitters on the 776–787 MHz and 788 – 793 MHz bands that are located within 500 meters of existing or planned public safety base station receivers, to submit a description of their proposed facility to a Commission-approved public safety coordinator.

* * * * *

27. Section 27.501 is amended by revising the title and amending the section to read as follows:

§ 27.501 746 – 763 MHz, 775 – 793 MHz, and 805 – 806 MHz bands subject to competitive bidding.

Mutually exclusive initial applications for licenses in the 746 – 763 MHz, 775 – 793 MHz, and 805 – 806 MHz bands are subject to competitive bidding. The general competitive bidding procedures set forth in part 1, subpart Q of this chapter will apply unless otherwise provided in this subpart.

28. Section 27.601 is amended by revising paragraph (c) as follows:

§ 27.601 Authority and coordination requirements.

* * * * *

(c) *Frequency Coordination.*

(1) A Guard Band licensee, or a spectrum lessee operating at 775-776 MHz and 805-806 MHz 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:

* * * * *

29. Add the following new subpart N to Part 27 to read as follows:

SUBPART N — 700 MHz PUBLIC/PRIVATE PARTNERSHIP

§ 27.1301 Purpose and scope

The purpose of this subpart, in conjunction with subpart AA of Part 90, is to establish rules and procedures relating to the 700 MHz Public/Private Partnership entered between the winning bidder for the Upper 700 MHz D Block license, the Upper 700 MHz D Block licensee, the Network Assets Holder, the Operating Company, the Public Safety Broadband Licensee, and other related entities as the Commission may require or allow. Pursuant to this partnership, the Upper 700 MHz D Block licensee and the Operating Company will be responsible for constructing and operating a nationwide, shared interoperable wireless broadband network used to provide a commercial service and a broadband network service for public safety entities. The shared network assets will be held by the Network Assets Holder and the Shared Wireless Broadband Network will operate on both the commercial spectrum licensed to the Upper 700 MHz D Block licensee and the public safety broadband spectrum licensed to the Public Safety Broadband Licensee. This subpart of the Part 27 rules sets forth specific provisions relating to the Upper 700 MHz D Block license, the Upper 700 MHz D Block licensee, and other related entities as the Commission may require or allow with respect to the 700 MHz Public/Private Partnership. Subpart AA of the Part 90 rules sets forth related provisions applicable to the Public Safety Broadband License and the Public Safety Broadband Licensee with respect to the 700 MHz Public/Private Partnership.

§ 27.1303 Upper 700 MHz D Block license conditions

(a) The winning bidder at auction of the license for Block D in the 758-763 MHz and 788-793 MHz bands will be granted the Upper 700 MHz D Block license only after this winning bidder has entered, with the Public Safety Broadband Licensee and other related entities as the Commission may require or allow, into the Network Sharing Agreement (NSA) that has been approved by the Commission, has executed such other agreements as the Commission may require or allow, and has met all other necessary conditions pertaining to the award of this license.

(b) The Upper 700 MHz D Block licensee shall comply with all of the applicable requirements set forth in this part and subpart, including the construction requirements set forth in § 27.14, and shall comply with the terms of the NSA and such other agreements as the Commission may require or allow.

(c) The Upper 700 MHz D Block licensee shall have the exclusive right to build and operate the shared wireless broadband network, except as set forth in §§ 20.1330 and 90.1430.

(d) The Upper 700 MHz D Block licensee must not discontinue, reduce, or impair service to public safety users unless and until, pursuant to Commission procedures, it has obtained prior authorization from the Commission.

(e) The Upper 700 MHz D Block licensee must provide the Public Safety Broadband Licensee with priority access during emergencies, as specified in the NSA.

(f) These conditions and requirements will apply to any related entities that the Commission may require or allow, as provided for in the NSA or otherwise as authorized by the Commission.

§ 27.1305 Shared Wireless Broadband Network.

The Shared Wireless Broadband Network developed by the 700 MHz Public/Private Partnership must be designed to meet requirements associated with a nationwide, public safety broadband network. At a minimum, the network must incorporate the following features:

(a) Design for operation over a broadband technology platform that provides mobile voice, video, and data capability that is seamlessly interoperable across public safety local and state agencies, jurisdictions, and geographic areas, and that includes current and evolving state-of-the-art

technologies reasonably made available in the commercial marketplace with features beneficial to the public safety community.

(b) Sufficient signal coverage to ensure reliable operation throughout the service area consistent with typical public safety communications systems.

(c) Sufficient robustness to meet the reliability and performance requirements of public safety.

(d) Sufficient capacity to meet the needs of public safety.

(e) Security and encryption consistent with state-of-the-art technologies.

(f) A mechanism to automatically prioritize public safety communications over commercial uses on a real-time basis consistent with the requirements of § 27.1307.

(g) Operational capabilities consistent with features and requirements that are typical of current and evolving state-of-the-art public safety systems.

(h) Operational control of the network by the Public Safety Broadband Licensee to the extent necessary to ensure that public safety requirements are met.

§ 27.1307 Spectrum use in the network.

(a) *Spectrum use.* The shared wireless broadband network developed by the 700 MHz Public/ Private Partnership will operate using spectrum associated with the Upper 700 MHz D Block license in the 758-763 MHz and 788-793 MHz bands and the Public Safety Broadband License in the adjacent 763-768 MHz and 793-798 MHz bands.

(b) *Access to spectrum in the 758-763 MHz and 788-793 MHz bands.* The Upper 700 MHz D Block licensee shall lease the spectrum rights associated with the Upper 700 MHz D Block license to the Operating Company, pursuant to the Commission's spectrum leasing rules. The spectrum leasing arrangement shall be a long-term *de facto* transfer leasing arrangement for the entire remaining term of the Upper 700 MHz D Block license. If the Upper 700 MHz D Block license is renewed, the parties will be required to renew this spectrum leasing arrangement as well.

(c) *Access to spectrum in the 763-768 MHz and 793-798 MHz bands.* The Public Safety Broadband Licensee, which holds the Public Safety Broadband License pursuant to Part 90 rules, must lease the spectrum usage rights associated with this license, pursuant to a spectrum manager leasing arrangement set forth in Part 1 subpart X, to the Upper 700 MHz D Block licensee and the Operating Company for the entire remaining term of the Public Safety Broadband License to effectuate the 700 MHz Public/Private Partnership. The Upper 700 MHz D Block licensee and the Operating Company are the only entities that are eligible to lease the spectrum usage rights associated with the Public Safety Broadband License to operate on the 763-768 and 793-798 MHz bands. If the Upper 700 MHz D Block license is cancelled, this spectrum leasing arrangement will automatically terminate.

(d) *Commercial operations in the 763-768 MHz and 793-798 MHz bands.* Commercial operations in the 763-768 MHz and 793-798 MHz bands through the spectrum manager leasing arrangement shall not cause harmful interference to primary users (*i.e.*, public safety users) and cannot claim protection from harmful interference from the primary public safety operations in the 763-768 MHz and 793-798 MHz bands. The network providing commercial operations in the 763-768 MHz and 793-798 MHz bands through the spectrum manager leasing arrangement must be designed to automatically assign priority to public safety users, to the exclusion and/or immediate preemption of any commercial use on a dynamic, real-time priority basis, and to guarantee that public safety users suffer no harmful interference or interruption or degradation of service due to

commercial operations in the 763-768 MHz and 793-798 MHz bands.

§ 27.1308 Organization and structure of the 700 MHz Public/Private Partnership.

(a) The Upper 700 MHz D Block licensee, the Network Assets Holder and such other related entities as the Commission may require or allow shall be formed by the winning bidder of the Upper 700 MHz D Block license. The Upper 700 MHz D Block licensee, the Network Assets Holder, and related entities as the Commission may require or allow must be Special Purpose Bankruptcy Remote Entities formed to hold the license, to hold the shared network assets, or for such other purpose as the Commission may require or allow. The winning bidder of the Upper 700 MHz D Block license shall also form the Operating Company, which must also be a Special Purpose Bankruptcy Remote Entity. Upon issuance of the Upper 700 MHz D Block license, the winning bidder will assign all of its rights and obligations under the NSA to the Upper 700 MHz D Block licensee, Network Assets Holder, the Operating Company, and any other related entities that the Commission may require or allow.

(b) The Upper 700 MHz D Block licensee and other related entities as the Commission may require or allow shall have the obligation to build out the Shared Wireless Broadband Network, as provided for in the NSA or otherwise as authorized by the Commission.

§ 27.1310 Network Sharing Agreement.

The relationship between the Upper 700 MHz D Block licensee, the Public Safety Broadband Licensee, and related entities as the Commission may require or allow will be governed by the Network Sharing Agreement (NSA) and such other separate agreements as the Commission may require or allow that are negotiated and entered into between the parties. The NSA must, at a *minimum*, include the following terms:

(a) All of the substantive rights and obligations of the parties relating to the NSA, as established by the Commission concerning the 700 MHz Public/Private Partnership.

(b) Network specifications that comply with § 27.1305.

(c) The definition of "emergency" for purposes of emergency priority access.

(d) All service fees to be imposed for services to public safety, including fees for normal network service and fees for priority access to the D Block spectrum in an emergency.

(e) A detailed build-out schedule consistent with § 27.1327, including coverage of major highways and interstates, as well as incorporated communities with a population in excess of 3,000.

(f) The right of the Public Safety Broadband Licensee to determine and approve the specifications of public safety equipment used on the network and the right to purchase its own subscriber equipment from any vendor it chooses, to the extent such specifications and equipment are consistent with reasonable network control requirements established in the NSA.

(g) The Upper 700 MHz D Block licensee must offer at least one handset suitable for public safety use that includes a seamlessly integrated satellite solution pursuant to the terms, conditions, and timeframes set forth in the NSA.

(h) Any major modification of the terms of the NSA, related agreements or documents, or such other agreements as the Commission may require or allow must be submitted to the Commission for prior approval. All other modifications must be submitted to the Chiefs of the Wireless Telecommunications Bureau and the Public Safety and Homeland Security Bureau for prior approval.

(i) The NSA shall require, in a separate agreement, the granting of an irrevocable and assignable

right of first refusal to purchase the network assets if and whenever such assets are otherwise to be sold and an irrevocable and assignable option in favor of the Public Safety Broadband Licensee to purchase the network and all network assets if and whenever the Upper 700 MHz D Block license is cancelled or terminated, by reason of default or for any other reason, for a consideration equivalent to the fair market value of the tangible and intangible assets sold. This right and option shall be senior to, and have priority over, any other right, claim, or interest in or to the network or the network assets. The NSA shall also include a fair market valuation methodology to determine the fair market value of the shared wireless broadband network assets.

(j) The NSA must have a term, not to exceed 10 years from February 17, 2009, that coincides with the terms of the Upper 700 MHz D Block license and the Public Safety Broadband License.

§ 27.1315 Establishment, execution, and application of the Network Sharing Agreement.

The following requirements and processes relate to the establishment, execution, and application of the NSA:

(a) *Approval of NSA as pre-condition for granting the D Block License.* The Commission shall not grant the Upper 700 MHz D Block license until the winning bidder for the Upper 700 MHz D Block license has negotiated the NSA and such other agreements as the Commission may require or allow with the Public Safety Broadband Licensee, and the NSA and related agreements or documents have been approved by the Commission and executed by the required parties. Parties to the NSA must also include the Upper 700 MHz D Block licensee, the Network Assets Holder, and the Operating Company, as these entities are defined in § 27.4.

(b) *Requirement of negotiation.* Negotiation of an NSA between the winning bidder for the Upper 700 MHz D Block license and the Public Safety Broadband Licensee must commence by the date the winning bidder files its long form application or the date on which the Commission designates the Public Safety Broadband Licensee, whichever is later, and must conclude within six months of that date. Parties to this negotiation are required to negotiate in good faith. Two members of the Commission staff, one from the Wireless Telecommunications Bureau and one from the Public Safety and Homeland Security Bureau, shall be present at all stages of the negotiation as neutral observers.

(c) *Reporting requirements.* The winning bidder for the Upper 700 MHz D Block license must file a report with the Commission within 10 business days of the commencement of the negotiation period certifying that active and good faith negotiations have begun, providing the date on which they commenced, and providing a schedule of the initial dates on which the parties intend to meet for active negotiations, covering at a minimum the first 30 day period. Beginning three months from the triggering of the six-month negotiation period, the winning bidder for the Upper 700 MHz D Block license and the Public Safety Broadband Licensee must jointly provide detailed reports, on a monthly basis and subject to a request for confidential treatment, on the progress of the negotiations throughout the remainder of the negotiations. These reports must include descriptions of all material issues that the parties have yet to resolve.

(d) *Submission of final agreement.* As soon as the parties have reached an agreement on all the terms of the NSA, related agreements or documents, and such other agreements as the Commission may require or allow, but not later than five business days after the six-month period for negotiation has expired, they must submit the NSA together with all agreements and related documents referenced in the NSA, for review and approval by the full Commission. The Commission will act on the NSA within 60 days of receipt. The Commission may approve the NSA in its entirety, approve with modifications, or require the parties to address additional terms or re-draft existing terms within a specified timeframe. After the NSA is approved, the parties must execute the NSA and such other agreements as the Commission may require or allow, and submit executed copies to the Commission within 10 business days of approval.

(e) *Submission of disputed issues.* If the parties have not reached agreement on all terms of the NSA and related agreements by the end of the six-month period, they must notify the Commission not later than five business days after the expiration of the six-month period of the terms on which they have agreed, the nature of the remaining issues, each party's position on each issue, whether additional negotiation is likely to produce an agreement, and, if so, a proposed deadline for reaching agreement on the NSA. Authority is delegated jointly to the Chiefs of the Wireless Telecommunications Bureau and the Public Safety and Homeland Security Bureau to resolve any remaining disputes.

(f) *Resolution of disputes.* Actions to resolve disputes may include, but are not limited to: (1) granting additional time for negotiation; (2) issuing a decision on the disputed issues and requiring the submission of a draft agreement consistent with the decision; (3) directing the parties to further brief the remaining issues in full for immediate Commission decision; and/or (4) immediate denial of the long-form application filed by the winning bidder for the Upper 700 MHz D Block license.

(g) *Default by winning bidder for Upper 700 MHz D Block license.* If the winning bidder for the Upper 700 MHz D Block fails to comply with negotiation or dispute resolution requirements or fails to execute a Commission-approved NSA, its long form application will be denied. If the long form application of the winning bidder of the Upper 700 MHz D Block license is denied for any reason, including as a consequence of an action taken pursuant to subsections (e) and (f), it will be deemed to have defaulted under §1.2109(c) and will be liable for the default payment specified in § 1.2104(g).

§ 27.1320 Failure to comply with the NSA or the Commission's Rules.

(a) Failure to comply with the Commission's rules or the terms of the NSA may warrant cancelling the Upper 700 MHz D Block license and awarding it to a new licensee. In the event the Upper 700 MHz D Block license is cancelled, the Commission shall issue an order cancelling the license and announcing the process for awarding rights to the spectrum to a new licensee. Pending the award to a new licensee, the Commission shall issue the Operating Company a special temporary authority to prevent interruption of services provided over the Shared Wireless Broadband Network. The Operating Company must continue to provide both commercial service and services to public safety during the transition. Upon grant of a new license, the Commission shall establish the terms and timing under which the special temporary authorization shall be cancelled and the new Upper 700 MHz D Block licensee assumes the construction and operation of the network.

(b) If the Commission cancels or terminates the Upper 700 MHz D Block license, a fair market valuation of the shared wireless broadband network assets shall be performed immediately, pursuant to the fair market valuation methodology set forth in the NSA. In the event that the Upper 700 MHz D Block license is awarded to a new entity, the Public Safety Broadband Licensee's option to purchase the network and all network assets if and whenever the Upper 700 MHz D Block license is cancelled or terminated and its right of first refusal to purchase the network assets if and whenever such assets are otherwise to be sold shall be assigned to the new Upper 700 MHz D Block licensee and the new Network Assets Holder.

§ 27.1325 Resolution of disputes after grant of the Upper 700 MHz D Block License.

(a) The Upper 700 MHz D Block licensee, the Operating Company, the Network Assets Holder and the Public Safety Broadband Licensee may at any time bring a complaint to the Commission based on a claim that another party to the NSA has deviated from the terms of the NSA, or a petition for a declaratory ruling to resolve the proper interpretation of an NSA term or provision. The Commission also may at any time, on its own motion, determine to address any material breach or interpret any NSA term or provision.

(b) The Commission shall have primary responsibility and jurisdiction for adjudicating disputes

that arise following execution of the NSA. The Commission may, however, require the parties to first seek a settlement to the dispute or authorize the parties to resolve the dispute through litigation or other means. Breach of license terms, the NSA, or the Commission's rules may result in cancellation of the Upper 700 MHz D Block license, the Public Safety Broadband License, or both.

(c) The Chiefs of the Public Safety and Homeland Security Bureau and the Wireless Telecommunications Bureau are delegated joint responsibility for adjudicating disputes.

§ 27.1327 Construction requirements; criteria for renewal.

(a) The Upper 700 MHz D Block licensee shall comply with the applicable construction requirements of §27.14.

(b) The Upper 700 MHz D Block licensee shall comply with the applicable procedures and criteria for license renewal of §27.14.

§ 27.1330 Local public safety build-out and operation.

(a) The Upper 700 MHz D Block licensee and the Operating Company through its lease arrangements shall, except in the two limited circumstances set forth herein, have the exclusive right to build and operate the Shared Wireless Broadband Network.

(b) *Rights to early build-out in areas with a build-out commitment.* In an area where the Upper 700 MHz D Block licensee has committed, in the NSA, to build out by a certain date, a public safety entity may, with the pre-approval of the Public Safety Broadband Licensee and subject to the requirements set forth herein, construct a broadband network in that area at its own expense so long as the network is capable of operating on the Shared Wireless Broadband Network and meets all the requirements and specifications of the network required under the NSA.

(1) *Options for early build-out in areas with a build-out commitment.* In order to obtain authorization to construct a broadband network as set forth above, the requesting public safety entity must agree to one of the following:

(i) to, on its own, or through the Public Safety Broadband Licensee acting on its behalf, construct the network at its own expense, and upon completion of construction transfer the network to the Upper 700 MHz D Block licensee, which shall then integrate that network into the Shared Wireless Broadband Network constructed pursuant to the NSA; or

(ii) to, in agreement with the Upper 700 MHz D Block licensee, provide all funds necessary for the Upper 700 MHz D Block licensee to complete the early construction of the network, including any and all additional resource and personnel costs, allowing the Upper 700 MHz D Block licensee at all times to own, operate, and manage the network as an integrated part of the Shared Wireless Broadband Network.

(2) *Negotiation of amendment to NSA.* Under either early build out option set forth above, the Public Safety Broadband Licensee, the Upper 700 MHz D Block licensee, and the public safety entity must, prior to any construction, negotiate an amendment to the NSA regarding this part of the network, specifying ownership rights, fees, and other terms, which may be distinct from the analogous terms governing the Shared Wireless Broadband Network, and such amendment must be approved by the Commission.

(i) Such amendment must provide the terms under which the Upper 700 MHz D Block licensee shall receive full ownership rights and shall compensate the public safety entity (or the Public Safety Broadband Licensee, where appropriate) for the construction of the network; and shall, absent

agreement to the contrary, provide for such transfer and compensation to occur prior to the scheduled build out date for such network in the NSA.

(ii) Any right to compensation from the Upper 700 MHz D Block licensee related to such early build-out shall be limited to the cost that would have been incurred had the Upper 700 MHz D Block licensee constructed the network itself in accordance with the original terms and specifications of the NSA, as reasonably determined by the parties and negotiated as part of the required NSA amendment required above. Such costs shall not include costs attributable solely to advancing the date of construction or otherwise expediting the construction process.

(3) *Operations.* The public safety entity may not commence operations on the network until ownership of the network has been transferred to the Upper 700 MHz D Block licensee. Further, no operations shall be allowed except those authorized and conducted pursuant to the authority of the Public Safety Broadband License.

(4) *Attribution of early build-out to national benchmarks.* Upon completion of construction, transfer of ownership to the Upper 700 MHz D Block licensee, and compensation as required herein, if applicable, the Upper 700 MHz D Block licensee may include the network constructed pursuant to the early build-out provisions herein for purposes of determining whether it has met its national build-out benchmarks and the build-out requirements of the NSA.

(5) *Rights to build out and operate in areas without a build-out commitment.* In areas for which the NSA does not require the Upper 700 MHz D Block licensee to build out the Shared Wireless Broadband Network, a public safety entity may build out and operate a separate, exclusive network in the 700 MHz public safety broadband spectrum at any time, provided the public safety entity has received the written approval of the Public Safety Broadband Licensee and operates its independent network pursuant to a spectrum leasing arrangement into which the public safety entity has entered with the Public Safety Broadband Licensee.

(i) Such leasing arrangement shall not require the approval or consent of the Upper 700 MHz D Block licensee; however, the Public Safety Broadband Licensee must provide the Upper 700 MHz D Block licensee with notice of the public safety entity's intent to construct in that area within 30 days of receipt of a request from a public safety entity seeking to exercise this option, and shall inform the Upper 700 MHz D Block licensee of the public safety entity's anticipated build-out date(s).

(ii) Should the Upper 700 MHz D Block licensee, within 30 calendar days from receipt of notice of the public safety entity's intent to construct in that area, certify in writing to the Public Safety Broadband Licensee that it will build out the shared network in the area within a reasonable time of the anticipated build-out date(s), as determined by the Public Safety Broadband Licensee, the Public Safety Broadband Licensee shall not allow the public safety entity to build and operate its own separate exclusive network in that area, provided that the Upper 700 MHz D Block licensee and the Public Safety Broadband Licensee execute an amendment to the NSA indicating the Upper 700 MHz D Block licensee's commitment to build the network in that area. Such commitment shall become enforceable against the Upper 700 MHz D Block licensee as part of its overall build-out requirements.

(iii) If the Upper 700 MHz D Block licensee does not exercise its option to commit to build out the network in the requested area within 30 calendar days of receipt of notice of the public safety entity's intent to construct in such area, the Public Safety Broadband Licensee and the public safety entity may proceed with a spectrum leasing arrangement, which must be filed with the Commission prior to the public safety entity commencing any operations. The spectrum leasing arrangement must take the form of a spectrum manager leasing arrangement under the rules specified in § 1.9020 of this chapter, and incorporate the following conditions:

(a) The network must provide broadband operations;

(b) The network must be fully interoperable with the Shared Wireless Broadband Network;

(c) The network must be available for use by any public safety entity in the area;

(d) The network must satisfy any other terms or conditions required by the Public Safety Broadband Licensee; and

(e) The public safety entity must construct and place into operation its network within one year of the effective date of the spectrum manager leasing arrangement. If the public safety entity fails to place the network into operation within one year, the Public Safety Broadband Licensee shall terminate the spectrum leasing arrangement pursuant to § 1.9020(h)(3). The public safety entity may also seek extended implementation authority from the Commission pursuant to the requirements of § 90.629 of this Part.

(6) Except as set forth herein, the separate network is not required to meet the other specifications of the Shared Wireless Broadband Network. Absent agreement of the public safety entity, the Public Safety Broadband Licensee, and the Upper 700 MHz D Block licensee, the separate network may not operate using any spectrum associated with the Upper 700 MHz D Block license.

(7) The Public Safety Broadband Licensee must file with the Commission any spectrum manager leasing arrangement as specified in § 1.9020(e) of this chapter; such filing shall identify the public safety entity leasing the spectrum, the particular areas of spectrum leased as part of this build-out option, and the specific network infrastructure and equipment deployed on such leased spectrum.

§ 27.1333 Geographic partitioning, spectrum disaggregation, license assignment and transfer.

(a) The 700 MHz Upper D Block license may not be partitioned or disaggregated.

(b) The 700 MHz Upper D Block licensee will be permitted to assign or transfer its licensee subject to Commission review and prior approval. The Upper 700 MHz D Block license assignment or transfer applications are precluded from overnight processing.

§ 27.1335 Prohibition on discontinuance of public safety operations.

The Upper 700 MHz D Block licensee, the Operating Company and the Network Assets Holder are prohibited from discontinuing or degrading the broadband network service provided to the Public Safety Broadband Licensee or to public safety entities unless either at the request of the public safety entity or entities in question or with the pre-approval of the Commission. The Upper 700 MHz D Block licensee shall notify the affected public safety entity or entities and the Public Safety Broadband Licensee at least 30 days prior to any unrequested discontinuance or degradation of network service.

§ 27.1340 Reporting obligations.

(a) The Upper 700 MHz D Block licensee and the Public Safety Broadband Licensee shall jointly file quarterly reports with the Commission. These reports shall include audited financial statements, how the specific requirements of public safety are being met, detailed information on the areas where broadband service has been deployed, which public safety entities are using the broadband network in each area of operation, what types of applications are in use in each area of operation, and the number of declared emergencies in each area of operation.

(b) The Upper 700 MHz D Block licensee and Public Safety Broadband Licensee have joint responsibility to register the base station locations with the Commission, providing basic technical information, including geographic location.

30. The authority citation for Part 90 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), and 332(c)(7).

§ 90.5 Other applicable rule parts.

* * * * *

(k) Part 27 contains rules relating to miscellaneous wireless communications services.

(l) Part 51 contains rules relating to interconnection.

(m) Part 68 contains technical standards for connection of private land mobile radio equipment to the public switched telephone network.

(n) Part 101 governs the operation of fixed microwave services.

31. Section 90.7 is amended by adding the following definitions in alphabetical order to read as follows:

§ 90.7 Definitions.

* * * * *

700 MHz Public/Private Partnership. The public/private partnership established for the development and operation of a nationwide, shared interoperable wireless broadband network operating on the 758-763 MHz and 788-793 MHz bands and the 763-768 MHz and 793-798 MHz bands in accordance with the Commission's rules.

* * * * *

Network Assets Holder. The Network Assets Holder is a Special Purpose Bankruptcy Remote Entity that is formed to hold the assets of the shared wireless broadband network associated with the 700 MHz Public/Private Partnership, in accordance with the terms of the Network Sharing Agreement, such other agreements as the Commission may require or allow, and the Commission's rules.

* * * * *

Network Sharing Agreement (NSA). An agreement entered into between the winning bidder, the Upper 700 MHz D Block licensee, the Network Assets Holder, the Operating Company, the Public Safety Broadband Licensee, and any other related entities that the Commission may require or allow regarding the shared wireless broadband network associated with the 700 MHz Public/Private Partnership that will operate on the 758-763 MHz and 788-793 MHz bands and the 763-768 MHz and 793-798 MHz bands.

* * * * *

Operating Company. The Operating Company is a Special Purpose Bankruptcy Remote Entity that is formed to build and operate the shared wireless broadband network associated with the 700 MHz Public/Private Partnership, in accordance with the terms of the Network Sharing Agreement, such other agreements as the Commission may require or allow, and the Commission's rules.

* * * * *

Public Safety Broadband License. The Public Safety Broadband License authorizes public safety broadband services in the 763-768 MHz and 793-798 MHz bands on a primary basis.

* * * * *

Public Safety Broadband Licensee. The licensee of the Public Safety Broadband License in the 763-768 MHz and 793-798 MHz bands.

* * * * *

Shared Wireless Broadband Network. Wireless broadband network associated with the 700 MHz Band Public/Private Partnership that operates on the 758-763 MHz and 788-793 MHz bands and the 763-768 MHz and 793-798 MHz bands pursuant to the terms of the Network Sharing Agreement, such other agreements as the Commission may require or allow, and the Commission's rules.

* * * * *

Special Purpose Bankruptcy Remote Entity. A "special purpose entity" is a legal entity created for a special limited purpose, in this context primarily to hold the Upper 700 MHz D Block license or the network assets, or to conduct the construction or operation of the Shared Wireless Broadband Network associated with the 700 MHz Public/Private Partnership. A special purpose entity is "bankruptcy remote" if that entity is unlikely to become insolvent as a result of its own activities, is adequately insulated from the consequences of a related party's insolvency, and contains certain characteristics which enhance the likelihood that it will not become the subject of an insolvency proceeding.

* * * * *

Upper 700 MHz D Block license. The Upper 700 MHz D Block license is the nationwide license associated with the 758-763 MHz and 788-793 MHz bands.

* * * * *

Upper 700 MHz D Block licensee. The Special Purpose Bankruptcy Remote Entity to which the Upper 700 MHz D Block license must be transferred upon execution of the Network Sharing Agreement. References herein to the rights and obligations of the Upper 700 MHz D Block licensee include the exercise or discharge of such rights or obligations, respectively, by related entities as are provided for in the NSA or otherwise as authorized by the Commission.

* * * * *

32. Section 90.18 is added to read as follows:

§ 90.18 Public Safety 700 MHz Nationwide Broadband Network.

The 763-768/793-798 MHz band is dedicated to a broadband public safety communications system with a nationwide level of interoperability. A nationwide license for this spectrum is held by a single entity, the Public Safety Broadband Licensee, which must enter into the 700 MHz Public/Private Partnership with the licensee of the adjacent Upper 700 MHz D Block license, pursuant to a Network Sharing Agreement and such other agreements as the Commission may require. The specific provisions relating to the 700 MHz Public/Private Partnership are set forth in subpart AA of this part and subpart N of Part 27. The Public Safety 700 MHz Nationwide Broadband Network is established in the Second Report and Order in PS Docket No. 06-229.

33. Section 90.20 is amended by revising the table in paragraph (c)(3) and paragraph (d)(77) to read as follows:

§ 90.20 Public Safety Pool.

* * * * *

(c) * * *

(3) Frequencies.

Public Safety Pool Frequency Table

Frequency or band	Class of station(s)	Limitations	Coordinator
*	*	*	*
470-512	Base or mobile	68	
763-775	Base, mobile	77	PX
793-805	Mobile	77	PX
806-817	do	69	
*	*	*	*

(d) * * *

(77) Subpart R of this part contains rules for assignment of channels in the 763-775 MHz and 793-805 MHz bands.

34. Section 90.155 is amended by revising paragraph (a) to read as follows:

§ 90.155 Time in which station must be placed in operation.

(a) All stations authorized under this part, except as provided in sections 90.528, 90.529, 90.629, 90.631(f), 90.665, 90.685, and 90.1209, must be placed in operation within twelve (12) months from the date of grant or the authorization cancels automatically and must be returned to the Commission.

* * * * *

35. Section 90.175 is amended by revising the title of paragraph (e), revising paragraphs (j) (10), (11) and (12) and adding a new paragraph (j)(18) to read as follows:

§ 90.175 Frequency coordination requirements.

* * * * *

(e) For frequencies between 470-512 MHz, 769-775/799-805 MHz, 806-824/851-869 MHz and 896-901/935-940 MHz:

* * * * *

(j) * * *

(10) Applications for mobile stations operating in the 470-512 MHz band, 799-805 MHz band, or above 800 MHz if the frequency pair is assigned to a single system on an exclusive basis in the

proposed area of operation.

(11) Applications for add-on base stations in multiple licensed systems operating in the 470-512 MHz, 769-775 MHz band, or above 800 MHz if the frequency pair is assigned to a single system on an exclusive basis.

(12) Applications for control stations operating below 470 MHz, 769-775/799-805 MHz, or above 800 MHz and meeting the requirements of § 90.119(b).

* * * * *

(18) Applications for base, mobile, or control stations in the 763-768 MHz and 793-798 MHz bands.

36. Section 90.176 is amended by revising the section title and revising the title in paragraph (c) to read as follows:

§ 90.176 Coordinator notification requirements on frequencies below 512 MHz or at 769-775/799-805 MHz.

* * * * *

(c) Frequencies in the 769-775/799-805 MHz band. * * *

* * * * *

37. Section 90.179 is amended by revising paragraph (g) to read as follows:

§ 90.179 Shared use of radio stations.

* * * * *

(g) Notwithstanding paragraph (a) of this section, licensees authorized to operate radio systems on Public Safety Pool frequencies designated in § 90.20 may share their facilities with Federal Government entities on a non-profit, cost-shared basis. Such a sharing arrangement is subject to the provisions of paragraphs (b), (d), and (e) of this section, and § 2.103(c) concerning approval of the Public Safety Broadband Licensee for Federal operations in the 763-768 MHz and 793-798 MHz bands. State governments authorized to operate radio systems under § 90.529 may share the use of their systems (for public safety services not made commercially available to the public) with any entity that would be eligible for licensing under § 90.523 and Federal government entities.

38. Section 90.205 is amended by inserting a new paragraph (j), redesignating paragraphs (j) through (r) as paragraphs (k) through (s) and revising new paragraph (k) to read as follows:

§ 90.205 Power and antenna height limits.

* * * * *

(j) 763-775 MHz and 793-805 MHz. Power and height limitations are specified in §§ 90.541 and 90.542.

(k) 806-824 MHz, 851-869 MHz, 896-901 MHz and 935-940 MHz. Power and height limitations are specified in § 90.635

* * * * *

39. Subpart R is amended by revising the subpart title to read as follows:

Subpart R – Regulations Governing the Licensing and Use of Frequencies in the 763-775 and 793-805 MHz Bands

40. The first sentence of Section 90.521 is amended to read as follows:

§ 90.521 Scope.

This subpart sets forth the regulations governing the licensing and operations of all systems operating in the 763-775 MHz and 793-805 MHz frequency bands. * * *

41. Section 90.523 is amended by revising the introductory paragraph and adding a new paragraph (e) to read as follows:

§ 90.523 Eligibility.

This section implements the definition of public safety services contained in 47 U.S.C. § 337(f)(1). The following are eligible to hold Commission authorizations for systems operating in the 763-775 MHz and 793-805 MHz frequency bands:

* * * * *

(e) The minimum eligibility requirements for the Public Safety Broadband Licensee in the 763-768 MHz and 793-798 MHz bands are as follows:

(1) No commercial interest may be held in the Public Safety Broadband Licensee, and no commercial interest may participate in the management of the Public Safety Broadband Licensee;

(2) The Public Safety Broadband Licensee must be a non-profit organization;

(3) The Public Safety Broadband Licensee must be as broadly representative of the public safety radio user community as possible; and

(4) The Public Safety Broadband Licensee must be in receipt of written certifications from no less than ten geographically diverse state and local governmental entities (the authorizing entities), with at least one certification from a state government entity and one from a local government entity, verifying that

(i) they have authorized the Public Safety Broadband Licensee to use spectrum at 763-768 MHz and 793-798 MHz to provide the authorizing entities with public safety services; and

(ii) the authorizing entities' primary mission is the provision of public safety services.

42. Section 90.525 is amended by revising paragraphs (a) and (b) to read as follows:

§ 90.525 Administration of interoperability channels.

(a) States are responsible for administration of the Interoperability channels in the 769-775 MHz and 799-805 MHz frequency bands. Base and control stations must be licensed individually. A public safety entity meeting the requirements of § 90.523 may operate mobile or portable units on the Interoperability channels in the 769-775 MHz and 799-805 MHz frequency bands without a specific authorization from the Commission provided it holds a Part 90 license. All persons operating mobile or portable units under this authority are responsible for compliance with Part 90 of these rules and

other applicable federal laws.

(b) License applications for Interoperability channels in the 769-775 MHz and 799-805 MHz frequency bands must be approved by a state-level agency or organization responsible for administering state emergency communications. States may hold the licenses for Interoperability channels or approve other qualified entities to hold such licenses. States may delegate the approval process for interoperability channels to another entity, such as regional planning committees.

43. Section 90.528 is added to read as follows:

§ 90.528 Public Safety Broadband License.

(a) The 763-768/793-798 MHz bands are allocated on a nationwide basis for public safety broadband operations and licensed to a single Public Safety Broadband Licensee. The 768-769/798-799 MHz bands also are licensed to the Public Safety Broadband Licensees as guard bands. The license area of the Public Safety Broadband License consists of the contiguous 48 states, Alaska, Hawaii, Gulf of Mexico, and the U.S. territories.

(b) The Public Safety Broadband License authorizes construction and operation of base stations anywhere within the area authorized by the license, except as follows:

(1) A station is required to be individually licensed if:

(i) International agreements require coordination;

(ii) Submission of an environmental assessment is required under § 1.1307 of this chapter; or

(iii) The station would affect areas identified in § 1.924 of this chapter.

(2) Any antenna structure that requires notification to the Federal Aviation Administration (FAA) must be registered with the Commission prior to construction under § 17.4 of this chapter.

(c) Mobile and portable devices may operate without individual license under the authority of the Public Safety Broadband License.

(d) The term of the Public Safety Broadband License shall not exceed ten years from February 17, 2009. The Public Safety Broadband Licensee is entitled to a renewal expectancy barring violations of law, rules or policy warranting denial of renewal.

(e) The Public Safety Broadband License may not be partitioned or disaggregated.

(f) The Public Safety Broadband Licensee may not voluntarily assign or transfer control of the Public Safety Broadband License.

(g) *Quarterly reporting of financial and operational information.* The Public Safety Broadband Licensee shall submit, on a quarterly basis, a full financial accounting to the Commission, in a format to be set forth in the Network Sharing Agreement, and as approved by the Commission. Such quarterly financial reports shall be filed with the Commission, with a copy to the Chiefs of the Wireless Telecommunications and the Public Safety and Homeland Security Bureaus.

44. Section 90.531 is amended by revising the introductory paragraphs and paragraphs (a), (b) and (e), removing and reserving paragraphs (c) and (d)(2) and adding new paragraphs (f) and (g) to read as follows:

§ 90.531 Band plan.

This section sets forth the band plan for the 763-775 MHz and 793-805 MHz public safety bands.

(a) *Base and mobile use.* The 763-775 MHz band may be used for base, mobile or fixed (repeater) transmissions. The 793-805 MHz band may be used only for mobile or fixed (control) transmissions.

(b) *Narrowband segments.* There are two band segments that are designated for use with narrowband emissions. Each of these narrowband segments is divided into 960 channels having a channel size of 6.25 kHz as follows:

Frequency range	Channel Nos.
769-775 MHz	1-960
799-805 MHz	961-1920

* * * * *

(c) [Reserved]

(d) * * *

(d)(1) * * *

(d)(2) [Reserved]

* * * * *

(f) *Internal guard band.* The internal guard band (768-769/798-799 MHz) is reserved.

(g) *Broadband.* The 763-768 MHz and 793-798 MHz bands are allocated for broadband communications pursuant to the Public Safety Broadband License.

45. Section 90.533 is amended by revising the section to read as follows:

§ 90.533 Transmitting sites near the U.S./Canada or U.S./Mexico border.

This section applies to each license to operate one or more public safety transmitters in the 763-775 MHz and 793-805 MHz bands, at a location or locations North of Line A (see § 90.7) or within 120 kilometers (75 miles) of the U.S.-Mexico border, until such time as agreements between the government of the United States and the government of Canada or the government of the United States and the government of Mexico, as applicable, become effective governing border area non-broadcast use of these bands. Public safety licenses are granted subject to the following conditions:

(a) Public safety transmitters operating in the 763-775 MHz and 793-805 MHz bands must conform to the limitations on interference to Canadian television stations contained in agreement(s) between the United States and Canada for use of television channels in the border area.

(b) Public safety facilities must accept any interference that may be caused by operations of UHF television broadcast transmitters in Canada and Mexico.

(c) Conditions may be added during the term of the license, if required by the terms of international agreements between the government of the United States and the government of Canada or the government of the United States and the government of Mexico, as applicable, regarding non-broadcast use of the 763-775 MHz and 793-805 MHz bands.

46. Section 90.535 is amended by revising the introductory paragraph and paragraph (a) to read as follows:

§ 90.535 Modulation and spectrum usage efficiency requirements.

Transmitters designed to operate in 769-775 MHz and 799-805 MHz frequency bands must meet the following modulation standards:

(a) All transmitters in the 769-775 MHz and 799-805 MHz frequency bands must use digital modulation. Mobile and portable transmitters may have analog modulation capability only as a secondary mode in addition to its primary digital mode. Mobile and portable transmitters that only operate on the low power channels designated in §§ 90.531(b)(3), 90.531(b)(4), are exempt from this digital modulation requirement.

* * * * *

47. Section 90.537 is amended by revising paragraph (a) to read as follows:

§ 90.537 Trunking requirement.

(a) General use channels. All systems using six or more narrowband channels in the 769-775 MHz and 799-805 MHz frequency bands must be trunked systems, except for those described in paragraph (b) of this section.

* * * * *

48. Section 90.539 is amended by revising the introductory paragraph to read as follows:

§ 90.539 Frequency stability.

Transmitters designed to operate in 769-775 MHz and 799-805 MHz frequency bands must meet the frequency stability requirements in this section.

* * * * *

49. Section 90.541 is amended by revising the introductory paragraph to read as follows:

§ 90.541 Transmitting power limits.

The transmitting power of base, mobile, portable and control stations operating in the 769-775 MHz and 799-805 MHz frequency bands must not exceed the maximum limits in this section, and must also comply with any applicable effective radiated power limits in § 90.545.

* * * * *

50. Section 90.542 is added to read as follows:

§ 90.542 Broadband transmitting power limits.

(a) The following power limits apply to the 763-768/793-798 MHz band:

(1) Fixed and base stations transmitting a signal in the 763-768 MHz band 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.

(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 in the 763-768 MHz band 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 in the 763-768 MHz band 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.

(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 in the 763-768 MHz band 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 of fixed or base stations transmitting a signal in the 763-768 MHz band at an ERP greater than 1000 watts must comply with the provisions set forth in paragraph (b).

(6) Control stations and mobile stations transmitting in the 763-768 MHz band and the 793-798 MHz band are limited to 30 watts ERP.

(7) Portable stations (hand-held devices) transmitting in the 763-768 MHz band and the 793-798 MHz band are limited to 3 watts ERP.

(8) For transmissions in the 763-768 MHz and 793-798 MHz bands, licensees may employ equipment operating in compliance with either of the following measurement techniques:

(i) The 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.

(ii) A Commission-approved average power technique.

Table 1 - Permissible Power and Antenna Heights for Base and Fixed in the 763-768 MHz Band 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 763-768 MHz Band 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 763-768 MHz Band 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 763-768 MHz Band 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

(b) For base and fixed stations operating in the 763-768 MHz band in accordance with the

provisions of paragraph (a)(5) of this section, 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.

51. Section 90.543 is amended by revising the introductory paragraph, deleting the two tables in paragraph (a) concerning "150 kHz" requirements, revising paragraph (b)(1), inserting a new paragraph (e) and revising and redesignating paragraphs (e) and (f) as paragraphs (f) and (g).

§ 90.543 Emission limitations.

Transmitters designed to operate in 769-775 MHz and 799-805 MHz frequency bands must meet the emission limitations in paragraphs (a) through (d) of this section. Transmitters operating in 763-768 MHz and 793-798 MHz bands must meet the emission limitations in (e) of this section.

* * * * *

(b)(1) *Setting reference level.* Set transmitter to maximum output power. Using a spectrum analyzer capable of ACP measurements, set the measurement bandwidth to the channel size. For example, for a 6.25 kHz transmitter set the measurement bandwidth to 6.25 kHz. Set the frequency offset of the measurement bandwidth to zero and adjust the center frequency of the instrument to the assigned center frequency to measure the average power level of the transmitter. Record this power level in dBm as the "reference power level."

* * * * *

(e) For operations in the 763-768 MHz and the 793-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations.

(2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations.

(3) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(f) For operations in the 763-775 MHz and 793-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

(g) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

52. Section 90.547 is amended by revising paragraph (a) to read as follows:

§ 90.547 Narrowband interoperability channel capability requirement.

(a) Except as noted in this section, mobile and portable transmitters operating on narrowband channels in the 769-775 MHz and 799-805 MHz frequency bands must be capable of operating on all

of the designated nationwide narrowband Interoperability channels pursuant to the standards specified in this part.

* * * * *

53. Section 90.548 is amended by revising paragraph (a) to read as follows:

§ 90.548 Interoperability technical standards.

(a) Transmitters operating on those narrowband channels in the 769-775 and 799-805 MHz band designated for interoperability (See § 90.531) shall conform to the following technical standards:

* * * * *

54. Section 90.551 is amended to read as follows:

§ 90.551 Construction requirements.

Each station authorized under this subpart to operate in the 769-775 MHz and 799-805 MHz frequency bands must be constructed and placed into operation within 12 months from the date of grant of the authorization, except for State channels. However, licensees may request a longer construction period, up to but not exceeding 5 years, pursuant to § 90.155(b). State channels are subject to the build-out requirements in § 90.529.

55. Add the following new subpart AA to Part 90 to read as follows:

SUBPART AA — 700 MHz PUBLIC/PRIVATE PARTNERSHIP

§ 90.1401 Purpose and scope.

The purpose of this subpart, in conjunction with subpart N of Part 27, is to establish rules and procedures relating to the 700 MHz Public/Private Partnership entered between the winning bidder for the Upper 700 MHz D Block license, the Upper 700 MHz D Block licensee, the Network Assets Holder, the Operating Company, the Public Safety Broadband Licensee, and other related entities as the Commission may require or allow. Pursuant to this partnership, the Upper 700 MHz D Block licensee and the Operating Company will be responsible for constructing and operating a nationwide, shared interoperable wireless broadband network used to provide a commercial service and a broadband network service for public safety entities. The shared network assets will be held by the Network Assets Holder, and the Shared Wireless Broadband Network will operate on both the commercial spectrum licensed to the Upper 700 D Block MHz licensee and the public safety broadband spectrum licensed to the Public Safety Broadband Licensee. This subpart of the Part 90 rules sets forth specific provisions relating to the Public Safety Broadband License and the Public Safety Broadband Licensee with respect to the 700 MHz Public/Private Partnership. Subpart N of the Part 27 rules sets forth related provisions applicable to the Upper 700 MHz D Block license, the Upper 700 MHz D Block licensee and other related entities as the Commission may require or allow, with respect to the 700 MHz Public/Private Partnership.

§ 90.1403 Public Safety Broadband License conditions.

(a) The Public Safety Broadband Licensee shall comply with all of the applicable requirements set forth in this subpart and shall comply with the terms of the Network Sharing Agreement and such other agreements as the Commission may require or allow.

(b) The responsibilities of the Public Safety Broadband Licensee shall include the following:

(1) Negotiation of the NSA and such other agreements as the Commission may require or allow with the winning bidder at auction for the Upper 700 MHz Band D Block license, pursuant to the requirements set forth in § 90.1410.

(2) General administration of access to the 763-768 MHz and 793-798 MHz bands by individual public safety entities, including assessment of usage fees and related frequency coordination duties.

(3) Regular interaction with and promotion of the needs of the public safety entities with respect to access and use of the 763-768 MHz and 793-798 MHz bands, within the technical and operational confines of the NSA.

(4) Dealings with equipment vendors on its own or in partnership with the Upper 700 MHz D Block licensee, as appropriate, to achieve and pass on the benefits of economies of scale concerning network and subscriber equipment and applications.

(5) Sole authority, which cannot be waived in the NSA, to approve, in consultation with the Upper 700 MHz D Block licensee, equipment and applications for use by public safety entities on the public safety broadband network. State or local entities may seek review of a decision by the Public Safety Broadband Licensee not to permit certain equipment or applications, or particular specifications for equipment or applications, from the Chief, Public Safety and Homeland Security Bureau.

(6) Coordination of stations operating on 700 MHz public safety broadband spectrum with 700 MHz public safety narrowband stations, including management of the internal public safety guard band.

(7) Oversight and implementation of the relocation of narrowband public safety operations in television channels 63 and 68, and the upper one megahertz of channels 64 and 69.

(8) Exercise of sole discretion, pursuant to § 2.103 of this chapter, whether to permit Federal public safety agency use of the public safety broadband spectrum, with any such use subject to the terms and conditions of the NSA.

(9) Review of requests for waiver submitted by public safety entities to conduct wideband operations pursuant to the procedures and restrictions in connection with such waivers as described in § 90.1432.

§ 90.1405 Shared Wireless Broadband Network.

The Shared Wireless Broadband Network developed by the 700 MHz Public/Private Partnership must be designed to meet requirements associated with a nationwide, public safety broadband network. At a minimum, the network must incorporate the following features:

(a) Design for operation over a broadband technology platform that provides mobile voice, video, and data capability that is seamlessly interoperable across public safety local and state agencies, jurisdictions, and geographic areas, and which includes current and evolving state-of-the-art technologies reasonably made available in the commercial marketplace with features beneficial to the public safety community.

(b) Sufficient signal coverage to ensure reliable operation throughout the service area consistent with typical public safety communications systems.

(c) Sufficient robustness to meet the reliability and performance requirements of public safety.

(d) Sufficient capacity to meet the needs of public safety.

(e) Security and encryption consistent with state-of-the-art technologies.

(f) A mechanism to automatically prioritize public safety communications over commercial uses on a real-time basis consistent with the requirements of § 90.1407(c).

(g) Operational capabilities consistent with features and requirements that are typical of current and evolving state-of-the-art public safety systems.

(h) Operational control of the network by the Public Safety Broadband Licensee to the extent necessary to ensure that public safety requirements are met.

§ 90.1407 Spectrum use in the network.

(a) *Spectrum use.* The Shared Wireless Broadband Network will operate using spectrum associated with the Upper 700 MHz D Block license in the 758-763 MHz and 788-793 MHz bands and the Public Safety Broadband License in the adjacent 763-768 MHz and 793-798 MHz bands.

(b) *Access to spectrum in the 763-768 MHz and 793-798 MHz bands.* The Public Safety Broadband Licensee which holds the Public Safety Broadband License, pursuant to Part 90 rules, must lease the spectrum rights associated with this license, pursuant to a spectrum manager leasing arrangement set forth in Part 1 subpart X, to the Upper 700 MHz D Block licensee and the Operating Company for the entire remaining term of the Public Safety Broadband License to effectuate the 700 MHz Public/Private Partnership. The Upper 700 MHz D Block licensee and the Operating Company, are the only entities that are eligible to lease the spectrum usage rights associated with the Public Safety Broadband License to operate on the 763-768 and 793-798 MHz bands. If the Upper 700 MHz D Block license is cancelled, this spectrum leasing arrangement will automatically terminate.

(c) *Commercial operations in the 763-768 MHz and 793-798 MHz bands.* Commercial operations in the 763-768 MHz and 793-798 MHz bands through the spectrum manager leasing arrangement shall not cause harmful interference to primary users (*i.e.*, public safety users) and cannot claim protection from harmful interference from the primary public safety operations in the 763-768 MHz and 793-798 MHz bands. The network providing commercial operations in the 763-768 MHz and 793-798 MHz bands through the spectrum manager leasing arrangement must be designed to automatically assign priority to public safety users, to the exclusion and/or immediate preemption of any commercial use on a dynamic, real-time priority basis, and to guarantee that public safety users suffer no harmful interference or interruption or degradation of service due to commercial operations in the 763-768 MHz and 793-798 MHz bands.

§ 90.1408 Organization and structure of the 700 MHz Public/Private Partnership.

(a) The Upper 700 MHz D Block licensee and the Network Assets Holder and such other related entities as the Commission may require or allow shall be formed by the winning bidder of the Upper 700 MHz D Block license. The Upper 700 MHz D Block licensee, the Network Assets Holder, and related entities as the Commission may require or allow must be Special Purpose Bankruptcy Remote Entities formed to hold the license, to hold the shared network assets, or for such other purpose as the Commission may require or allow. The winning bidder of the Upper 700 MHz D Block license shall also form the Operating Company, which must also be a Special Purpose Bankruptcy Remote Entity. Upon issuance of the Upper 700 MHz D Block license, the winning bidder will assign all of its rights and obligations under the NSA to the Upper 700 MHz D Block licensee, Network Assets Holder, the Operating Company, and any other related entities that the Commission may require or allow.

(b) The Upper 700 MHz D Block licensee and other related entities as the Commission may require or allow shall have the obligation to build out the Shared Wireless Broadband Network, as provided for in the NSA or otherwise as authorized by the Commission.

§ 90.1410 Network Sharing Agreement.

The relationship between the Upper 700 MHz D Block licensee, the Public Safety Broadband Licensee, and related entities as the Commission may require or allow will be governed by the Network Sharing Agreement (NSA) and such other separate agreements as the Commission may require or allow that are negotiated and entered into between the parties. The NSA must, at a minimum, include the following terms:

(a) All of the substantive rights and obligations of the parties relating to the NSA, as established by the Commission concerning the 700 MHz Public/Private Partnership.

(b) Network specifications that comply with § 27.1305.

(c) The definition of "emergency" for purposes of emergency priority access.

(d) All service fees to be imposed for services to public safety, including fees for normal network service and fees for priority access to the D Block spectrum in an emergency.

(e) A detailed build-out schedule consistent with § 27.1327, including coverage of major highways and interstates, as well as incorporated communities with a population in excess of 3,000.

(f) The right of the Public Safety Broadband Licensee to determine and approve the specifications of public safety equipment used on the network and the right to purchase its own subscriber equipment from any vendor it chooses, to the extent such specifications and equipment are consistent with reasonable network control requirements established in the NSA.

(g) The Upper 700 MHz D Block licensee must offer at least one handset suitable for public safety use that includes a seamlessly integrated satellite solution pursuant to the terms, conditions, and timeframes set forth in the NSA.

(h) Any major modification of the terms of the NSA, related agreements or documents, or such other agreements as the Commission may require or allow must be submitted to the Commission for prior approval. All other modifications must be submitted to the Chiefs of the Wireless Telecommunications Bureau and the Public Safety and Homeland Security Bureau for prior approval.

(i) The NSA shall require, in a separate agreement, the granting of an irrevocable and assignable right of first refusal to purchase the network assets if and whenever such assets are otherwise to be sold and an irrevocable and assignable option in favor of the Public Safety Broadband Licensee to purchase the network and all network assets if and whenever the Upper 700 MHz D Block license is cancelled or terminated, by reason of default or for any other reason, for a consideration equivalent to the fair market value of the tangible and intangible assets sold. This right and option shall be senior to, and have priority over, any other right, claim, or interest in or to the network or the network assets. The NSA shall also include a fair market valuation methodology to determine the fair market value of the shared wireless broadband network assets.

(j) The NSA must have a term, not to exceed 10 years from February 17, 2009, that coincides with the terms of the Upper 700 MHz D Block license and the Public Safety Broadband License.

§ 90.1415 Establishment, execution, and application of the Network Sharing Agreement.

The following requirements and processes relate to the establishment, execution, and application of the NSA:

(a) *Approval of NSA as pre-condition for granting the D Block License.* The Public Safety

Broadband Licensee must negotiate an NSA and such other agreements as the Commission may require or allow with the winning bidder for the Upper 700 MHz D Block license. The NSA and related agreements or documents must be approved by the Commission and then executed by the relevant parties. Parties to the NSA must also include the Upper 700 MHz D Block licensee, the Network Assets Holder, and the Operating Company, as these entities are defined in § 90.7.

(b) *Requirement of negotiation.* Negotiation of an NSA between the winning bidder for the Upper 700 MHz D Block license and the Public Safety Broadband Licensee must commence by the date the winning bidder files its long form application or the date on which the Commission designates the Public Safety Broadband Licensee, whichever is later, and must conclude within six months of that date. Parties to this negotiation are required to negotiate in good faith. Two members of the Commission staff, one from the Wireless Telecommunications Bureau and one from the Public Safety and Homeland Security Bureau, shall be present at all stages of the negotiation as neutral observers.

(c) *Reporting requirements.* Beginning three months from the triggering of the six-month negotiation period, the Public Safety Broadband Licensee and the winning bidder for the Upper 700 MHz D Block license must jointly provide detailed reports, on a monthly basis and subject to a request for confidential treatment, on the progress of the negotiations throughout the remainder of the negotiations. These reports must include descriptions of all material issues that the parties have yet to resolve.

(d) *Submission of final agreement.* As soon as the parties have reached an agreement on all the terms of the NSA, related agreements or documents, and such other agreements as the Commission may require or allow but not later than five business days after the six-month period for negotiation has expired, they must submit the NSA together with all agreements and related documents referenced in the NSA, for review and approval by the full Commission. The Commission will act on the NSA within 60 days of receipt. The Commission may approve the NSA in its entirety, approve with modifications, or require the parties to address additional terms or re-draft existing terms within a specified timeframe. After the NSA is approved, the parties must execute the NSA and such other agreements as the Commission may require or allow and submit executed copies to the Commission within 10 business days of approval.

(e) *Submission of disputed issues.* If the parties have not reached agreement on all terms of the NSA and related agreements by the end of the six-month period, they must notify the Commission not later than five business days after the expiration of the six-month period of the terms on which they have agreed, the nature of the remaining issues, each party's position on each issue, whether additional negotiation is likely to produce an agreement, and, if so, a proposed deadline for reaching agreement on the NSA. Authority is delegated jointly to the Chiefs of the Wireless Telecommunications Bureau and the Public Safety and Homeland Security Bureau to resolve any remaining disputes.

(f) *Resolution of disputes.* Actions to resolve disputes may include, but are not limited to: (1) granting additional time for negotiation; (2) issuing a decision on the disputed issues and requiring the submission of a draft agreement consistent with the decision; (3) directing the parties to further brief the remaining issues in full for immediate Commission decision; and/or (4) immediate denial of the long-form application filed by the winning bidder for the Upper 700 MHz D Block license.

(g) *Default by winning bidder for Upper 700 MHz D Block license.* If the winning bidder for the Upper 700 MHz D Block fails to comply with negotiation or dispute resolution requirements or fails to execute a Commission-approved NSA, its long form application will be denied. If the long form application of the winning bidder of the Upper 700 MHz D Block license is denied for any reason, including as a consequence of an action taken pursuant to subsections (e) and (f), it will be deemed to have defaulted under §1.2109(c) and will be liable for the default payment specified in § 1.2104(g).

§ 90.1420 Failure to comply with the NSA or the Commission's Rules.

(a) Failure to comply with the Commission's rules or the terms of the NSA may warrant cancelling the Public Safety Broadband License. The potential remedies also include, but are not limited to, assigning the license to another entity, directing the Public Safety Broadband Licensee to transfer the assignable right to purchase the assets at fair market value, ordering specific performance, or ordering removal and replacement of individual officers, directors or member organizations of the Public Safety Broadband Licensee.

(b) If the Commission cancels or terminates the Upper 700 MHz D Block license, a fair market valuation of the shared wireless broadband network assets shall be performed immediately, pursuant to the fair market valuation methodology set forth in the NSA. In the event that the Upper 700 MHz D Block license is awarded to a new entity, the Public Safety Broadband Licensee's option to purchase the network and all network assets if and whenever the Upper 700 MHz D Block license is cancelled or terminated and its right of first refusal to purchase the network assets if and whenever such assets are otherwise to be sold shall be assigned to the new Upper 700 MHz D Block licensee and the new Network Assets Holder.

§ 90.1425 Resolution of disputes after grant of the Upper 700 MHz D Block License.

(a) The Public Safety Broadband Licensee, the Operating Company, the Network Assets Holder, and the Upper 700 MHz D Block licensee may at any time bring a complaint to the Commission based on a claim that another party to the NSA has deviated from the terms of the NSA, or a petition for a declaratory ruling to resolve the proper interpretation of an NSA term or provision. The Commission also may at any time, on its own motion, determine to address any material breach or interpret any NSA term or provision.

(b) The Commission shall have primary responsibility and jurisdiction for adjudicating disputes that arise following execution of the NSA. The Commission may, however, require the parties to first seek a settlement to the dispute or authorize the parties to resolve the dispute through litigation or other means. Breach of license terms, the NSA, or the Commission's rules may result in cancellation of the Public Safety Broadband License, the Upper 700 MHz D Block license, or both.

(c) The Chiefs of the Public Safety and Homeland Security Bureau and the Wireless Telecommunications Bureau are delegated joint responsibility for adjudicating disputes.

§ 90.1430 Local Public Safety build-out and operation.

(a) The Upper 700 MHz D Block licensee and the Operating Company through its lease arrangements shall, except in the two limited circumstances set forth herein, have the exclusive right to build and operate the Shared Wireless Broadband Network.

(b) *Rights to early build-out in areas with a build-out commitment.* In an area where the Upper 700 MHz D Block licensee has committed, in the NSA, to build out by a certain date, a public safety entity may, with the pre-approval of the Public Safety Broadband Licensee and subject to the requirements set forth herein, construct a broadband network in that area at its own expense so long as the network is capable of operating on the Shared Wireless Broadband Network and meets all the requirements and specifications of the network required under the NSA.

(1) *Options for early build-out in areas with a build-out commitment.* In order to obtain authorization to construct a broadband network as set forth above, the requesting public safety entity must agree to one of the following:

(i) to, on its own, or through the Public Safety Broadband Licensee acting on its behalf, construct

the network at its own expense, and upon completion of construction, transfer the network to the Upper 700 MHz D Block licensee, which shall then integrate that network into the Shared Wireless Broadband Network constructed pursuant to the NSA; or

(ii) to, in agreement with the Upper 700 MHz D Block licensee, provide all funds necessary for the Upper 700 MHz D Block licensee to complete the early construction of the network, including any and all additional resource and personnel costs, allowing the Upper 700 MHz D Block licensee at all times to own, operate, and manage the network as an integrated part of the Shared Wireless Broadband Network.

(2) *Negotiation of amendment to NSA.* Under either early build out option set forth above, the Public Safety Broadband Licensee, the Upper 700 MHz D Block licensee, and the public safety entity must, prior to any construction, negotiate an amendment to the NSA regarding this part of the network, specifying ownership rights, fees, and other terms, which may be distinct from the analogous terms governing the Shared Wireless Broadband Network, and such amendment must be approved by the Commission.

(i) Such amendment must provide the terms under which the Upper 700 MHz D Block licensee shall receive full ownership rights and shall compensate the public safety entity (or the Public Safety Broadband Licensee, where appropriate) for the construction of the network; and shall, absent agreement to the contrary, provide for such transfer and compensation to occur prior to the scheduled build out date for such network in the NSA.

(ii) Any right to compensation from the Upper 700 MHz D Block licensee related to such early build-out shall be limited to the cost that would have been incurred had the Upper 700 MHz D Block licensee constructed the network itself in accordance with the original terms and specifications of the NSA, as reasonably determined by the parties and negotiated as part of the required NSA amendment required above. Such costs shall not include costs attributable solely to advancing the date of construction or otherwise expediting the construction process.

(3) *Operations.* The public safety entity may not commence operations on the network until ownership of the network has been transferred to the Upper 700 MHz D Block licensee. Further, no operations shall be allowed except those authorized and conducted pursuant to the authority of the Public Safety Broadband Licensee.

(4) *Attribution of early build-out to national benchmarks.* Upon completion of construction, transfer of ownership to the Upper 700 MHz D Block licensee, and compensation as required herein, if applicable, the Upper 700 MHz D Block licensee may include the network constructed pursuant to the early build-out provisions herein for purposes of determining whether it has met its national build-out benchmarks and the build-out requirements of the NSA.

(5) *Rights to build out and operate in areas without a build-out commitment.* In areas for which the NSA does not require the Upper 700 MHz D Block licensee to build out the Shared Wireless Broadband Network, a public safety entity may build out and operate a separate, exclusive network in the 700 MHz public safety broadband spectrum at any time, provided the public safety entity has received the written approval of the Public Safety Broadband Licensee and operates its independent network pursuant to a spectrum leasing arrangement into which the public safety entity has entered with the Public Safety Broadband Licensee.

(i) Such leasing arrangement shall not require the approval or consent of the Upper 700 MHz D Block licensee; however, the Public Safety Broadband Licensee must provide the Upper 700 MHz D Block licensee with notice of the public safety entity's intent to construct in that area within 30 days of receipt of a request from a public safety entity seeking to exercise this option, and shall inform the Upper 700 MHz D Block licensee of the public safety entity's anticipated build-out date(s).

(ii) Should the Upper 700 MHz D Block licensee, within 30 calendar days from receipt of notice of the public safety entity's intent to construct in that area, certify in writing to the Public Safety Broadband Licensee that it will build out the shared network in the area within a reasonable time of the anticipated build-out date(s), as determined by the Public Safety Broadband Licensee, the Public Safety Broadband Licensee shall not allow the public safety entity to build and operate its own separate exclusive network in that area, provided that the Upper 700 MHz D Block licensee and the Public Safety Broadband Licensee execute an amendment to the NSA indicating the Upper 700 MHz D Block licensee's commitment to build the network in that area. Such commitment shall become enforceable against the Upper 700 MHz D Block licensee as part of its overall build-out requirements.

(iii) If the Upper 700 MHz D Block licensee does not exercise its option to commit to build out the network in the requested area within 30 calendar days of receipt of notice of the public safety entity's intent to construct in such area, the Public Safety Broadband Licensee and the public safety entity may proceed with a spectrum leasing arrangement, which must be filed with and approved by the Commission prior to the public safety entity commencing any operations. The spectrum leasing arrangement must take the form of a spectrum manager leasing arrangement under the rules specified in § 1.9020 of this chapter, and incorporate the following conditions:

(a) The network must provide broadband operations;

(b) The network must be fully interoperable with the Shared Wireless Broadband Network;

(c) The network must be available for use by any public safety entity in the area;

(d) The network must satisfy any other terms or conditions required by the Public Safety Broadband Licensee; and

(e) The public safety entity must construct and place into operation its network within one year of the effective date of the spectrum manager leasing arrangement. If the public safety entity fails to place the network into operation within one year, the Public Safety Broadband Licensee shall terminate the spectrum leasing arrangement pursuant to § 1.9020(h)(3). The public safety entity may also seek extended implementation authority from the Commission pursuant to the requirements of § 90.629 of this Part.

(6) Except as set forth herein, the separate network is not required to meet the other specifications of the Shared Wireless Broadband Network. Absent agreement of the public safety entity, the Public Safety Broadband Licensee, and the Upper 700 MHz D Block licensee, the separate network may not operate using any spectrum associated with the Upper 700 MHz D Block license.

(7) The Public Safety Broadband Licensee must file with the Commission any spectrum manager leasing arrangement as specified in § 1.9020(e) of this chapter; such filing shall identify the public safety entity leasing the spectrum, the particular areas of spectrum leased as part of this build-out option, and the specific network infrastructure and equipment deployed on such leased spectrum.

§ 90.1432 Conditions for waiver to allow limited and temporary wideband operations in the 700 MHz Public Safety spectrum.

(a) *Wideband operations in the 700 MHz Public Safety spectrum.* Wideband operations are prohibited in the public safety allocation of the 700 MHz band public safety spectrum except where the Commission has granted a waiver pursuant to §§ 1.3 and 1.925 of this chapter and subject to the additional conditions and requirements specified below. Grants of waiver are restricted to the deployment of a wideband system in the consolidated narrowband portion or the internal public safety

guard band portion of the public safety broadband spectrum. Where spectrum in the narrowband segment or internal guard band segment is unavailable for wideband operations, public safety entities may request a waiver to operate in the upper 1.25 megahertz of the public safety broadband spectrum.

(b) Any public safety entity seeking to conduct wideband operations within the public safety allocation must file a request for waiver that is accompanied by an application for authorization and includes the following information:

(1) a letter from the Public Safety Broadband Licensee, confirming that the proposed wideband deployment is not inconsistent with the broadband deployment plan for the affected or adjacent service areas; and

(2) a description of the conditions or transition requirements, if any, agreed to between the applicant and the Public Safety Broadband Licensee.

(c) *Additional requirement for wideband operations in the narrowband segment and Internal Guard Band.* If an applicant seeks permission to deploy wideband systems in the narrowband segment, its waiver request must also include a letter from the appropriate regional planning committee or state licensee confirming that the proposed wideband deployment will not disrupt any regional or state planning efforts that are underway.

(d) *Additional requirements and conditions for wideband operations in the broadband segment.* Permission to conduct wideband operations in the broadband segment will be granted only where spectrum in the narrowband segment or the internal guard band is unavailable for wideband operations. In no event will permission be granted to conduct wideband operations in geographic areas scheduled for broadband deployment within the first three years of the build-out plan for the Shared Wireless Broadband Network.

(1) An applicant seeking permission to deploy wideband systems in the broadband segment must have first issued a request for proposal (RFP) that permitted interested parties to submit broadband proposals that are technically consistent with the Shared Wireless Broadband Network.

(2) A request for waiver that seeks permission to deploy wideband systems in the broadband segment must include the following information:

(i) a substantially supported, detailed technical showing demonstrating that insufficient spectrum in the narrowband segment or the internal guard band is available to support the desired wideband operations;

(ii) a showing that rejected responses to the required broadband network RFP were more costly, provided less coverage as measured by throughput at the network edge, or were otherwise inferior to the accepted wideband proposal; and

(iii) a detailed plan for integration of such wideband system into the Shared Wireless Broadband Network. This plan must specify how and by what date the wideband applicant will integrate its proposed wideband system into Shared Wireless Broadband Network and must include a certification that the public safety entity will not seek reimbursement for any costs involved in converting the wideband system to Shared Wireless Broadband Network upon completion of that network in the applicant's geographic area.

(3) Authority to conduct wideband operations in the broadband segment of the public safety spectrum will be subject to the following conditions:

(i) All devices operating on the wideband system must be designed to interoperate with Shared Wireless Broadband Network;

(ii) All waivers will expire automatically upon the Upper 700 MHz D Block licensee's initiation of service in the service area covered by such waiver.

(e) *Secondary status of wideband operations.* All wideband operations permitted under this section shall be secondary to the authorized narrowband or broadband applications, as applicable.

(f) *License terms for wideband operations.* Any secondary license to conduct wideband operations in the public safety spectrum shall have a term of no more than five years.

(g) *Renewal of wideband authorization.* Any request for renewal of an initial authorization to conduct wideband operations shall be filed not less than 180 days prior to expiration of the license. All renewal requests must include a showing that continued operation of the wideband system is in the public interest and must be accompanied by a letter from the Public Safety Broadband Licensee confirming that continuing wideband operations are not inconsistent with the broadband deployment plan for the affected or adjacent service areas. The license term for any renewal of a license granted under the waiver provisions herein shall not exceed three years. No more than one license renewal will be granted.

(h) *Grandfathered wideband STA operations.* Upon request, the Public Safety and Homeland Security Bureau may grant a public safety entity that has constructed, deployed, and was operating a wideband system as of July 31, 2007 pursuant to STA to extend the STA grant for periods of no more than 180 days until, but not later than, six months following the selection of the Public Safety Broadband Licensee.

§ 90.1435 Prohibition on discontinuance of Public Safety operations.

The Upper 700 MHz D Block licensee, the Operating Company, and the Network Assets Holder are prohibited from discontinuing or degrading the broadband network service provided to the Public Safety Broadband Licensee or to public safety entities unless either at the request of the entity or entities in question or it has first obtained the approval of the Commission. The Upper 700 MHz D Block licensee shall notify the affected public safety entity or entities and the Public Safety Broadband Licensee at least 30 days prior to any unrequested discontinuance or degradation of network service.

§ 90.1440 Reporting obligations.

(a) The Upper 700 MHz D Block licensee and the Public Safety Broadband Licensee shall jointly file quarterly reports with the Commission. These reports shall include audited financial statements, how the specific requirements of public safety are being met, detailed information on the areas where broadband service has been deployed, which public safety entities are using the broadband network in each area of operation, what types of applications are in use in each area of operation, and the number of declared emergencies in each area of operation.

(b) The Public Safety Broadband Licensee and the Upper 700 MHz D Block licensee have joint responsibility to register the base station locations with the Commission, providing basic technical information, including geographic location.

APPENDIX C

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1150] an Initial Regulatory Flexibility Analysis (IRFA) was included in the *700 MHz Further Notice*[1151] in WT Docket No. 06-150, WT Docket No. 01-309; WT Docket No. 06-169, WT Docket No. 03-264, CC Docket No. 94-102, PS Docket No. 06-229, and WT Docket No. 96-86. [1152] 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.[1153]

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,[1154] 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 *Second Report and Order*, including spectrum in the 746-806 MHz Band.

[1150] *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).

[1151] *See* 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).

[1152] *See* Service Rules for the 698-749746, 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. 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, 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 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, *Ninth Report and Order and Further Notice of Proposed Rule Making*, 2121*Rulemaking*, 22 FCC Rcd 14837, 14853 (2006) ("8064 (2007) (*700 MHz Public Safety Ninth Report and Order* and *700 MHz Further Notice*"", respectively).

[1153] *See* 5 U.S.C. § 604.

[1154] 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).

A. Need for, and Objectives of, the Rules

3. In the *Second Report and Order*, 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. It designates 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. The Commission also changes the location of the existing 700 MHz Guard Band licenses, provides for a one megahertz shift of the other commercial spectrum blocks in the Upper 700 MHz Band and the 700 MHz Public Safety Band, and reduces the size of the Guard Band B Block to make two additional megahertz of commercial spectrum available for auction.

4. The 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. The Commission determined that it 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. It also designates 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).

5. In addition, the Commission replaces the current "substantial service" requirements for 700 MHz Band commercial licenses that have not been auctioned with significantly more stringent performance requirements, and makes unserved areas available to third parties who wish to provide service to these areas. By adopting these more rigorous requirements, the Commission ensures that the 700 MHz Commercial Services licensees put the spectrum to use throughout the course of their license terms and serve the majority of users in their license areas Additionally, for one commercial spectrum block in the 700 MHz Band – the Upper 700 MHz C Block (700 MHz C Block)– the Commission imposes requirements on those licensees to provide open platforms for devices and applications, and concludes that it would not serve the public interest at this time to mandate broader openness requirements.

6. The *Second Report and Order* also revises the 700 MHz band plan with respect to the Upper 700 MHz Guard Bands, such that all existing A Block licenses relocate to a reconfigured A Block between the C and D Blocks, pursuant to an agreement between all but one of the Guard Bands licensees. As part of this agreement, the existing B Block licenses are relinquished, and the B Block is reconfigured from 4 to 2 megahertz and located immediately above the public safety narrowband spectrum. The reconfigured B Block serves as a guard band to protect the public safety narrowband channels, and remains empty as a commercial allocation at this time. With respect to the Guard Bands licensee that did not participate in the agreement, its one A Block license and two B Block licenses are grandfathered, with minor modifications to facilitate the overall revised band plan. In addition to these band plan issues with respect to the Guard Bands, the *Second Report and Order* also revises the service rules with respect to the reconfigured A Block, bringing it largely into parity with the adjacent Commercial Services spectrum given the new spectral location and its relationship to the rest of the band including the public safety spectrum.

7. Further, the Second Report and Order 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 Second Report and Order re-designates the wideband spectrum to broadband use consistent with a nationwide interoperability standard, and prohibits wideband operations on a going forward basis in the newly designated broadband spectrum. The Second Report

and Order also consolidates the narrowband spectrum to the top of the Public Safety Band, locates the broadband spectrum at the bottom of the Public Safety Band, and divides these segments with an internal guard band. This reconfiguration reduces the amount of spectrum necessary to separate and protect the public safety broadband and narrowband allocations, and facilitates partnerships between public safety broadband operations and adjacent commercial broadband technologies, thereby optimizing the 700 MHz public safety band plan. Finally, in order to promote the rapid deployment of a nationwide, interoperable broadband public safety network, the Second Report and Order creates a single nationwide geographic area Public Safety Broadband License which will be administered by a single Public Safety Broadband Licensee.

8. With regard to auctions-related issues, the Commission decides to utilize anonymous bidding to enhance the effectiveness of the auction of 700 MHz licenses, as well as allowing package bidding for the Upper 700 MHz Band C Block, and decides not to grant a "new entrant" bidding credit for the 700 MHz Band licenses. The Commission also declines to impose eligibility restrictions for the licenses in the 700 MHz Band. Finally, the Commission will offer bidding credits in the D Block, as described fully below.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

9. 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.

C. Description and Estimate of the Number of Small Entities to Which the 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.[1155] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[1156] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[1157] 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).[1158]

11. *Small Businesses*. Nationwide, there are a total of approximately 22.4 million small businesses, according to SBA data.[1159]

12. *Small Organizations*. Nationwide, there are approximately 1.6 million small organizations.[1160]

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."[1161] As of 2002, there were approximately 87,525 governmental jurisdictions

---

[1155] 5 U.S.C. § 604(a)(3).

[1156] 5 U.S.C. § 601(6).

[1157] 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."

[1158] 15 U.S.C. § 632.

[1159] *See* SBA, Programs and Services, SBA Pamphlet No. CO-0028, at page 40 (July 2002).

[1160] Independent Sector, The New Nonprofit Almanac & Desk Reference (2002).

[1161] 5 U.S.C. § 601(5).

in the United States.[1162] 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"[1163] and "Cellular and Other Wireless Telecommunications."[1164] 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.[1165] Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.[1166] 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.[1167] Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.[1168] Thus, under this second category and size standard, the majority of firms can, again, be considered small.

15. When identifying small entities that could be affected by the Commission's new rules, this FRFA 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.

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.[1169] 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.[1170] 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.[1171] SBA approval of these

[1162] U.S. Census Bureau, Statistical Abstract of the United States: 2006, Section 8, pages 272-273, Tables 415 and 417.

[1163] 13 C.F.R. § 121.201, NAICS code 517211.

[1164] 13 C.F.R. § 121.201, NAICS code 517212.

[1165] 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).

[1166] *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."

[1167] 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).

[1168] *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."

[1169] *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).

[1170] *Id.* at 5343 ¶ 108.

[1171] *Id.*

definitions is not required.[1172] An auction of 52 Major Economic Area (MEA) licenses commenced on September 6, 2000, and closed on September 21, 2000.[1173] 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.[1174]

17. *Upper 700 MHz Band Licenses*. The Commission released a *Report and Order* authorizing service in the Upper 700 MHz band.[1175] An auction for these licenses, previously scheduled for January 13, 2003, was postponed.[1176]

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.[1177] 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.[1178] 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.[1179] 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.[1180] The SBA has approved these small size standards.[1181] 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.[1182] 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.[1183] Seventeen winning bidders claimed small or very small business status and

---

[1172] *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).

[1173] *See* "700 MHz Guard Bands Auction Closes: Winning Bidders Announced," *Public Notice*, 15 FCC Rcd 18026 (2000).

[1174] *See* "700 MHz Guard Bands Auctions Closes: Winning Bidders Announced," *Public Notice*, 16 FCC Rcd 4590 (WTB 2001).

[1175] 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).

[1176] *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).

[1177] *See* Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59), *Report and Order*, 17 FCC Rcd 1022 (2002).

[1178] *Id.* at 1087-88 ¶ 172.

[1179] *Id.*

[1180] *Id.* at 1088 ¶ 173.

[1181] *See* Letter to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from Aida Alvarez, Administrator, Small Business Administration, dated August 10, 1999.

[1182] *See* "Lower 700 MHz Band Auction Closes," *Public Notice*, 17 FCC Rcd 17272 (WTB 2002).

[1183] *See* "Lower 700 MHz Band Auction Closes," *Public Notice*, 18 FCC Rcd 11873 (WTB 2003).

won sixty licenses, and nine winning bidders claimed entrepreneur status and won 154 licenses.[1184]

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.[1185] 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.[1186] According to Census Bureau data for 2002, in this category there were 8,863 firms that operated for the entire year.[1187] Of this total, 401 firms had 100 or more employees, and the remainder had fewer than 100 employees.[1188] 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.* While these entities are merely indirectly affected our action, we see are describing them to achieve a fuller record. 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."[1189] 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.[1190] According to Census Bureau data for 2002, there were a total of 1,041 establishments in this category that operated for the entire year.[1191] Of this total,

---

[1184] *Id.*

[1185] *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.

[1186] *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.

[1187] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Employment Size of Establishments for the United States: 2002," Table 2, NAICS code 517212.

[1188] *Id.*

[1189] 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.

[1190] 13 C.F.R. § 121.201, NAICS code 334220.

[1191] 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 (continued....)

1,010 had employment of under 500, and an additional 13 had employment of 500 to 999.[1192] Thus, under this size standard, the majority of firms can be considered small.

21. *Software Publishers*. While these entities are merely indirectly affected by our action, we are describing them to achieve a fuller record. These companies may design, develop or publish software and may provide other support services to software purchasers, such as providing documentation or assisting in installation. The companies may also design software to meet the needs of specific users.[1193] The SBA has developed a small business size standard of $23 million or less in average annual receipts for the category of Software Publishers.[1194] For Software Publishers, Census Bureau data for 2002 indicate that there were 6,155 firms in the category that operated for the entire year.[1195] Of these, 7,633 had annual receipts of under $10 million, and an additional 403 firms had receipts of between $10 million and $24, 999,999. For providers of Custom Computer Programming Services, the Census Bureau data indicate that there were 32,269 firms that operated for the entire year.[1196] Of these, 31,416 had annual receipts of under $10 million, and an additional 565 firms had receipts of between $10 million and $24,999,999. Consequently, we estimate that the majority of the firms in this category are small entities that may be affected by our action.

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

22. The projected reporting, recordkeeping, and other compliance requirements resulting from the *Second Report and Order* will apply to all entities in the same manner. The Commission believes that applying the same rules equally to all entities in this context 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.

23. Performance Requirements. In this *Second Report and Order*, the Commission replaces the current "substantial service" requirements for the 700 MHz Band commercial licenses that have not been auctioned with significantly more stringent performance requirements. These include the use of interim and end-of-term benchmarks, with geographic area benchmarks for licenses based on CMAs and EAs, and population benchmarks for licenses based on REAGs. Licensees must meet the interim requirement within four years of the end of the DTV transition. Failure to meet the interim requirement will result in a two-year reduction in license term, as well as possible enforcement action, including forfeitures. Licensees that fail to meet the end-of-term benchmarks will be subject to a "keep-what-you-use" rule, under which the licensee will lose its authorization for unserved portions of its license area, which will be automatically returned to the Commission for reassignment.

24. Licensees must demonstrate compliance with our interim and end-of-term construction benchmarks by filing a construction notification with the Commission within 15 days of the passage of the relevant benchmark certifying that they have met our performance requirements or, if they have not

(Continued from previous page) ———————————
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.

[1192] *Id.* An additional 18 establishments had employment of 1,000 or more.

[1193] *See* U.S. Census Bureau, "2002 NAICS Definitions: 511210 Software Publishers"; http://www.census.gov/epcd/naics02/def/NDEF511.HTM.

[1194] 13 C.F.R. § 121.201, NAICS code 511210.

[1195] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization)," Table 4, NAICS code 511210 (issued Nov. 2005).

[1196] U.S. Census Bureau, 2002 Economic Census, Subject Series: Professional, Scientific, and Technical Services, "Establishment and Firm Size (Including Legal Form of Organization)," Table 4, NAICS code 541511 (issued Nov. 2005).

met our performance requirements, they must file a description and certification of the areas for which they are providing service. The information contained in the licensee's construction notification must include electronic coverage maps and other supporting documentation. The electronic coverage maps must clearly and accurately depict the boundaries of each EA or CMA in the licensee's service territory, and the areas where the licensee's signal strength is sufficient to provide service to users. In addition to filing electronic coverage maps, each licensee must file supporting documentation certifying the type of service it is providing for each EA or CMA within its license service territory.

25. Guard Band Issues. The *Second Report and Order* relocates the A Block away from the public safety narrowband spectrum with respect to the upper half of the original paired A Block. Accordingly, the reconfigured A Block no longer serves as a guard band to protect the public safety spectrum from commercial operations. The existing frequency coordination requirement, which was created to protect public safety operations from Guard Bands operations, is therefore eliminated with respect to the reconfigured A Block.

26. Open Platforms for Devices and Applications. In this *Second Report and Order*, the Commission adopts a requirement for the 700 MHz C Block licensees to provide open platforms for devices and applications. 700 MHz C Block licensees must allow customers, device manufacturers, third-party application developers and others to use or develop the devices and applications of their choosing on the 700 MHz C Block network so long as they meet all applicable regulatory requirements and comply with reasonable conditions related to the management of the wireless network. The Commission does not, at this time, specify a particular process for wireless service providers to develop reasonable network management and openness standards, including through participation in standards setting organizations. The Commission expects licensees to publish their standards once adopted, which will be non-proprietary, such that they would be open to any third party vendors and that the standards applied to third parties will be no more restrictive than those applied to the provider's preferred vendors. The Commission also requires 700 MHz C Block licensees to provide to potential customers notice of the customers' rights to request the attachment of a device or application to the licensee's network, and notice of the licensee's process for customers to make such requests, including the relevant network criteria. In addition, 700 MHz C Block licensees are required to establish a reasonable process for expeditiously reviewing and processing requests to employ devices and applications on the licensee's network and offer a specific explanation for denial of any such request, and an opportunity for amendment of the request to accommodate the provider's concerns. The Commission also provides for its existing complaint procedures to be invoked if a violation of this requirement occurs. Once a complainant sets forth a *prima facie* case that the 700 MHz C Block licensee has refused to attach a device or application in violation of the requirement or has otherwise violated the rule, the 700 MHz C Block licensee shall have the burden of proof to demonstrate that it has adopted reasonable network standards and reasonably applied those standards in the complainant's case. The Commission commits to rule on these complaints within 180 days.

27. Public Safety Broadband. The *Second Report and Order* re-designates the wideband spectrum to broadband use consistent with a nationwide interoperability standard, and prohibits wideband operations on a going forward basis. The Commission will only grant limited exceptions to this rule through a waiver process. As a result of the decision to prohibit wideband operations outside of this waiver process, Regional Planning Committee plans already approved or on file with the Commission will require amendment. The *Second Report and Order* also consolidates the narrowband channels to the top of the public safety band, locates the broadband spectrum at the bottom of the public safety band, divides these segments with an internal guard band, and creates a single Public Safety Broadband License/Licensee to promote the rapid deployment of a nationwide, interoperable broadband public safety network. The relocation of public safety narrowband operations in the consolidated channels will entail some additional reporting, recordkeeping and compliance efforts by existing public safety entities with regard to the number and location of their affected narrowband handsets and base stations. The *Second Report and Order* does not otherwise propose any additional reporting, recordkeeping or other compliance requirements.

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

28. The RFA requires an agency to describe in the IRFA 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.[1197] We hereby incorporate by reference the discussion in the Second Report and Order of our consideration of the impact on small entities of the rules we adopt here.

29. Band Plan Issues. The *Second Report and Order* revises the 700 MHz band plan for the commercial services and public safety services in a manner that will improve the opportunity of small entities to obtain valuable wireless spectrum by providing smaller licensing areas that better meet the needs of small entities. The Commission's goals for the 700 MHz Band are to promote dissemination of licenses among a wide variety of applicants, including small entities, accommodate the competing need for both large and small licensing areas, meet the various needs expressed by potential entrants seeking access to spectrum and incumbents seeking additional spectrum, and provide for large spectrum blocks that can facilitate broadband deployment in the band. To achieve these goals the revised plan provides for two 12-megahertz spectrum blocks (comprised of paired 6-megahertz blocks), one licensed by CMAs and one by EAs; one 22-megahertz spectrum block (paired 11-megahertz blocks) by REAGs; and one 6-megahertz unpaired spectrum block by EAs. The revision also designates one 10-megahertz spectrum block (paired 5-megahertz blocks), the Upper 700 MHz D Block, to be licensed on a nationwide basis and used as part of the 700 MHz Public/Private Partnership.

30. Providing for an additional 700 MHz Band spectrum block licensed on a CMA basis (the B Block) will increase the opportunity of small entities to obtain smaller license areas that meet their needs while avoiding the transaction costs associated with obtaining access to spectrum in the secondary market, costs that are incurred when these small providers must arrange the terms by which another licensee grants access to its spectrum by means of partitioning, disaggregation, or spectrum leasing.

31. In addition, the Commission adopts EAs as the geographic service area for licenses in Block A of the Lower 700 MHz Band, making 176 licenses available in this block. The Commission also adopts EAs for the unpaired 6-megahertz E block of the Lower 700 MHz Band which further enhances the mix of geographic sizes for licenses in the band. These decisions will also create opportunities for small entities to acquire license for small geographic service areas in the Lower 700 MHz Band.

32. Frequency Coordination and the Guard Bands. The service area definition for the Upper 700 MHz Guard Bands is the MEA, which is a smaller license area and therefore can provide greater opportunities for small entrants than larger service area definitions such as the REAG. Accordingly, among the licensed Guard Bands and the lessees currently using their spectrum, there may be a significant number of small entities. Additionally, continued operations in the Guard Bands A Block may continue to involve a significant number of small entities through Secondary Markets arrangements. Since the *Second Report and Order* removes the requirement for all A Block operations to be frequency coordinated with public safety entities, any small entity engaged in ownership of, or operations on, the A Block will find the frequency coordination burden lifted to their significant benefit.

33. Performance Requirements. In this *Second Report and Order*, the Commission adopts stringent performance requirements for the 700 MHz Commercial Services licenses in order to promote the provision of innovative services to consumers throughout the license areas, including in rural areas. With regard to geographic-based benchmarks for licenses based on CMAs and EAs, the Commission seeks to promote service across as much of the geographic area of the country as is practicable. Parties that seek to acquire licenses based on CMAs and EAs may be small and rural providers that are less likely to provide regional or nationwide service, but they nonetheless play an important role in bringing new

[1197] 5 U.S.C. § 603(c).

services to consumers in many of these more rural areas. The use of small license areas such as CMAs will create opportunities for small and rural businesses and will foster the deployment of competitive wireless broadband services in rural areas. Because the Commission adopts smaller geographic license areas such as CMAs to facilitate the provision of service, including broadband, in rural areas, it also adopts performance requirements that are designed to ensure that service is offered to consumers in these areas. Because of the 700 MHz band's excellent propagation characteristics and suitability for delivering advanced wireless services to rural areas, the Commission establishes benchmarks that require build-out to a significant portion of the geographic are in those markets. In addition, the performance requirements adopted here will discourage larger entities from purchasing spectrum for the purpose of warehousing it and thus may provide small entities with a greater chance of obtaining valuable spectrum.

34. In the *Second Report and Order*, the Commission adopts population-based benchmarks for REAG licensees with large geographic areas in order to facilitate the roll out of advanced services on a nationwide or regional basis. Because of the significant capital investment and logistical challenges associated with building a regional or nationwide system without existing infrastructure, population benchmarks, rather than geographic benchmarks, will best allow a potential new entrant to achieve the economies of scale needed for a viable business model, while also ensuring that a majority of the population in a given region may have access to these services. Moreover, the performance requirements adopted here will discourage larger entities from purchasing spectrum for the purpose of warehousing it and thus may provide small entities with a greater chance of obtaining valuable spectrum.

35. Additionally, the keep-what-you-use rule is pro-competitive and provides another method for smaller license areas to be made available to small businesses, thus promoting access to spectrum and the provision of service, especially in rural areas. This rule ensures that spectrum covering areas that are not adequately built out is returned to the Commission and others are given an opportunity to acquire licenses for this spectrum. Because the license areas returned to the Commission under the keep-what-you-use rule are likely to be smaller in nature, this rule will provide small entities with an additional opportunity to obtain valuable wireless spectrum.

36. Although the Commission recognizes that the performance and reporting requirements for the 700 MHz Commercial Services licenses places burdens on both large and small businesses alike, these requirements will further several important policy objectives including taking advantage of the excellent propagation characteristics of the spectrum in the 700 MHz Band enabling broader coverage at lower costs, promoting the provision of innovative services to consumers throughout the license areas, including rural areas, and allowing large license areas to be served at lower infrastructure costs. Moreover, the inclusion of interim benchmark reporting requirements ensures that licensees provide service to consumers as early as possible. Because of the importance of these requirements, we do not believe that they should be applied on a differential basis to large and small business. Neither do we believe that such requirements will impose an unacceptable burden on small entities.

37. License Terms. The *Second Report and Order* extends the license terms of all the existing A Block licensees, given the changed circumstances of the band plan and service rules, as the licensees are relocated to the reconfigured A Block. This license term extension will benefit any Guard Bands licensees, and any lessees currently using their spectrum, that may be small entities as they will have more flexibility in the use of their spectrum with a longer period of time within which to make use of the spectrum.

38. Partitioning and Disaggregation. In this *Second Report and Order*, the Commission concludes that Section 27.15(d) of its rules regarding partitioning and disaggregation should be amended to clarify how the performance obligations will apply to the partitioning and disaggregation of the 700 MHz Commercial Services licenses that remain to be auctioned. These modifications seek to continue to provide flexibility to licensees and third parties to enter into partitioning and disaggregation arrangements that will facilitate the provision of new services to consumers, including consumers in unserved and underserved areas.

39. Under the modifications of the Section 27.15 (d) rules relating to geographic partitioning of new 700 MHz Commercial Services licenses, the Commission establishes two options for partitioners and partitionees with regard to the newly adopted performance requirements. Under the first option, the

partitioner and partitionee must each certify to the Commission that they will share responsibility for meeting the performance requirements for the entire geographic license area. If the parties meet the end-of-term construction benchmarks, they will retain the ability to continue to build out the unserved portion of their license areas. Parties that fail to meet the end-of-term benchmarks will be subject to a "keep-what-you-use" rule, under which they will lose their authorization for unserved portions of their license areas, which will automatically cancel and return to the Commission for reassignment. This option enables parties to share the cost of meeting the stricter buildout benchmarks as required by the Commission under its new performance requirements, while ensuring that buildout will occur over the original license are to the same extent as it would have occurred had the license never been partitioned. Under the second option, the partitioner and partitionee must each certify that it will independently meet the applicable performance requirements for its respective partitioned service area. If the partitioner or partitionee fails to meet the four-year build-out requirement for its respective area, then its license term will be reduced by two years. If the parties meet the end-of-term construction benchmarks, they will retain the ability to continue to build out the unserved portion of their license areas. Parties that fail to meet the end-of-term benchmarks will be subject to an automatic "keep-what-you-use" rule, under which they will lose their authorization for unserved portions of their license areas, which will automatically cancel and return to the Commission for reassignment. This option provides a way for partitioners and partitionees to ensure that their licenses will not be affected by the other party's conduct with regard to meeting the applicable performance requirements.

40. Under the modifications of the Section 27.15(d) rules relating to disaggregation of new 700 MHz Commercial Services band licenses, the Commission provides that the disaggregator, disaggregate, or both the disaggregator and disaggregate working together, can meet the four-year and end-of-term construction benchmarks for the entire geographic license area. If either party meets the performance requirement, then the requirement will be satisfied for both parties. If neither party meets the four-year build-out requirement, then each of their license terms will be reduced by two years. If either of the parties meets the end-of-term build-out requirement, then this requirement is considered to be satisfied for both parties. Those parties that meet the end-of-term construction benchmarks will retain the ability to continue to build out the unserved portion of their license areas. Parties that fail to meet the end-of-term benchmarks will be subject to an automatic "keep-what-you-use" rule, under which they will lose their authorization for unserved portions of their license areas, which will automatically cancel and return to the Commission for reassignment.

41. Partitioning and disaggregation allow smaller or newly-formed entities to enter the market for the first time, because they will be able to negotiate for portions of original licenses at costs that are proportionately less than the entire license. Moreover, these modifications provide the opportunity for small businesses to enter into partitioning and disaggregation agreements that would enable them to share the cost of meeting the more stringent performance requirements for the unauctioned commercial 700 MHz Band spectrum.

42. Open Platforms for Devices and Applications. In order to promote innovation in the 700 MHz spectrum band from the outset, the Commission is imposing certain conditions on the 700 MHz C Block to provide open platforms for devices and applications. The C Block – a large 22-megahertz block (comprised of paired 11-megahertz blocks) – is of sufficient size and scope to provide an environment conducive for the development and deployment of 4G services designed to compete with other broadband alternatives, and to provide an opportunity for innovators and entrepreneurs to develop equipment and applications that require substantial bandwidth to realize their full potential. The requirements should also provide sufficient potential market penetration to attract investment and achieve economies of scale in the equipment marketplace. In addition, we believe that the open platform requirement for devices and applications will provide additional opportunities for small entities to participate in the device and application market, since such a requirement will make it easier for customers, device manufacturers, third-party application developers, and others to use or develop devices and applications made by small entities on the network of the C Block licensee.

43. In adopting this requirement for the 700 MHz C Block, the Commission has taken a targeted, focused approach to achieve benefits to consumers. In particular, the Commission declines to impose additional openness requirements on the 700 MHz C Block, including wholesale and

interconnection requirements. In addition, the commission declines at this time to impose the requirement to provide open platforms for devices and applications or other openness obligations broadly in the 700 MHz Band, or in other spectrum bands.

44. Licensee Eligibility. The Commission declines to impose eligibility restrictions for the licenses in the 700 MHz band. The record does not demonstrate that open eligibility is likely to result in substantial competitive harm in the provision of broadband services. There are numerous actual and potential broadband service providers, and currently, consumers can obtain broadband service from wireline providers, cable companies, satellite, and wireless providers. Given this number of providers, it is unlikely that incumbent local exchange carriers, cable providers, or large wireless carriers would be able to behave in an anticompetitive manner as a result of any potential acquisition of 700 MHz spectrum. Furthermore, there are potential competitive benefits to not imposing eligibility requirements. First, allowing incumbents to hold 700 MHz band licenses will provide opportunities for these carriers to extend service into rural and hard-to-serve areas, which is a major goal the Commission seeks to achieve. Also, an incumbent service provider may already be a rural provider and to limit their eligibility would be contrary to the goals of the Commission. We also do not believe that imposing eligibility restrictions for licenses in the 700 MHz band is necessary to provide small entities with the opportunity to obtain such licenses. As discussed above, among other things, the smaller licensing areas made available here will increase opportunities for small entities.

45. Anonymous Bidding. In response to its request for comments on whether to use anonymous bidding (or "limited information") procedures in the auction of the new 700 MHz licenses, the Commission received comments both in support of and in opposition to such procedures. One of the supporters is a small licensee who argued that anonymous bidding would bring about a more level playing field between large and small bidders.[1198] The Commission further concludes that the many uncertainties regarding the technologies that will be used in the 700 MHz Band will result in the potential anti-competitive use of detailed information regarding bidding outweighing the benefit to some bidders of having such information.

46. The Commission further concludes that anonymous bidding should be employed even if the pre-auction eligibility ratio indicates that competition in the auction will be significant. Even in an auction with many competitors individual bidders could still use retaliatory bidding unilaterally to block the market, and it is important to avoid that from occurring especially given that the 700 MHz auction is going to offer multiple, substitutable blocks of licenses for sale, with prices relatively high, and the outcome having possible significant effects on post-auction market structure.

47. The Commission does not believe that anonymous bidding will have a detrimental effect on small entities. First, as discussed in Section III.A.3.a of the Order, the potential benefit to bidders, such as small entities, of knowing the identity of other parties placing bids for particular licenses appears likely to be less in this auction than in past Commission auctions, in light of the early stage of development with respect to new services in these frequencies. Second, because bidding information can be used by incumbents to deter or exclude new entrants, we believe that anonymous bidding will increase the opportunities for new entrants, including small entities, to obtain licenses.

48. Package Bidding. Commenters are divided on the issue of package bidding for the upcoming auction of the 700 MHz band of spectrum. While some commenters support package bidding because they feel it is essential for a new entrant seeking to aggregate licenses and offer service nationwide,[1199] there are other commenters who feel that package bidding will disadvantage bidders not bidding on packages, which are more likely to be small entities.[1200]

[1198] *See* McBride *700 MHz Further Notice* Comments at 11.

[1199] *See, e.g.*, Google *700 MHz Further Notice* Comments at 7-8.

[1200] *See Aloha 700 MHz Further Notice Comments at 7-8; Blooston 700 MHz Further Notice Comments at 10; Cellular South 700 MHz Further Notice Comments at 16; Leap 700 MHz Further Notice Comments at 9; MetroPCS* (continued....)

49. The Commission concludes that package bidding, with respect to the Upper 700 MHz Band C Block, would serve the public interest by reducing the exposure problem that might otherwise inhibit bidders seeking to create a nationwide footprint. Absent package bidding, the exposure problem creates an opportunity for competitors to block a would-be package bidder without actually competing for all the licenses in the package.[1201]

50. Minimizing the exposure problem, by implementing package bidding, should facilitate the entry of applicants whose business plans require the economies of scale that only can be obtained with nationwide operation. The Commission further concludes that package bidding solely with respect to licenses for the Upper 700 MHz Band C Block provides sufficient opportunities to bid with minimal risk of an exposure problem. However, we limit package bidding to the C Block so that bidders, including small entities, who are unwilling or unable to compete against package bids will not be deterred from participating in the auction. The variety of blocks and licenses that are not subjected to package bidding will provide any such bidders, including small entities, with a wide array of opportunities.

51. "New Entrant" Bidding Credit. The possibility of granting "new entrant" bidding credits attracted far less comment than other issues relating to the auction of the 700 MHz licenses, and those parties that did respond were divided on the issue. The Commission concludes that a "new entrant" bidding credit for the 700 MHz Band licenses is not needed to facilitate the entry of new service providers. The Commission already offers substantial bidding credits to small entities, many of which may be new entrants in the spectrum services market, and we therefore do not believe that there is a need for an additional "new entrant" bidding credit. In addition, the availability of multiple licenses in each and every market with varied geographic sizes, coupled with the large number of licenses should offer new ventures, including small entities, a variety of opportunities to provide service.

52. Bidding Credits for the 700 MHz Public/Private Partnership. A number of small entities have proposed, in their comments, that the Commission should offer designated entities bidding credits with regards to the license that has been proposed by Frontline.[1202] In brief, these commenters maintain that bidding credits will help potential applicants overcome efforts by incumbents to prevent others from winning newly available licenses.

53. The Commission concludes that it should provide applicants that are eligible to be licensed as designated entities with bidding credits in the auction of the D Block license, consistent with the Commission's prior decision regarding bidding credits for 700 MHz licenses and our current designated entities rules. This decision will improve the opportunity for small entities to successfully bid for the D Block license.

54. Public Safety Broadband. The *Second Report and Order* reallocates the wideband spectrum to broadband use consistent with a nationwide interoperability standard, and prohibits wideband operations within the newly designated broadband spectrum 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, enables partnerships with commercial licensees in adjacent broadband spectrum. As a result, the band plan ultimately enables 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. In particular, we believe that the interoperable broadband network will be of benefit to smaller governmental entities who would otherwise be unlikely to have the resources to construct such a network. Because the Commission does not anticipate that this reallocation will impose additional

(Continued from previous page) ———————————
700 MHz Further Notice Comments at 22; RCA 700 MHz Further Notice Comments at 18; RTG 700 MHz Further Notice Comments at 16.

[1201] Frontline *700 MHz Further Notice* Comments, Exhibit 1 at 22-23.

[1202] *See, e.g.*, McBride Spectrum Partners, LLC *700 MHz Further Notice* Comments at 4-8; Blooston Rural Carriers *700 MHz Further Notice* Comments at 7; Council Tree Communications, Inc. *700 MHz Further Notice* Reply Comments at 5-7.

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.

55. The *Second Report and Order* also consolidates the narrowband spectrum to the top of the public safety band and locates the broadband spectrum at the bottom of the public safety band, in light of the potentially significant benefits such reconfiguration will afford the public safety community. The alternative would have been to retain the existing band plan. The *Further Notice* sought comment on how to implement reconfiguration of the narrowband channels with minimum disruption to incumbent operations. The *Second Report and Order* accommodates public safety operations in the border areas with Canada and Mexico, and defrays the costs of relocation by providing that such costs will be covered by the D Block Licensee. This defrayal of costs should be of particular benefit to small governmental entities, which are less likely to have the resources to fund such a relocation on their own. The Commission expects that the number of entities impacted and the expected cost of reconfiguration should be relatively minor. In order to receive reimbursement for the cost of the transition, however, affected public safety entities are required to provide information regarding the narrowband radios and base stations that they have deployed. We do not believe that such a reporting requirement will place an unacceptable burden on small governmental entities.

F. Report to Congress

56. The Commission will send a copy of the *Second Report and Order*, including this FRFA, in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act.[1203] In addition, the Commission will send a copy of the *Second Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Second Report and Order* and FRFA (or summaries thereof) will also be published in the Federal Register.[1204]

[1203] *See* 5 U.S.C. § 801(a)(1)(A).

[1204] *See* 5 U.S.C. § 604(b).

APPENDIX D

Upper 700 MHz A Block License Modifications

Market	Guard Band A Block (746-747, 776-777 MHz)	Modified Guard Band A Block (757-758, 787-788 MHz)
MEA001	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA002	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA003	PTPMS II Communications, L.L.C.	PTPMS II Communications, L.L.C.
MEA004	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA005	Dominion 700, Inc.	Dominion 700, Inc.
MEA006	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA007	Access 700, LLC	Pegasus Guard Band, LLC
MEA008	Access 700, LLC	Access 700 Holdings, LLC
MEA009	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA010	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA011	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA012	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA013	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA014	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA015	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA016	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA017	Pegasus Guard Band, LLC	Access 700, LLC
MEA018	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA019	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA020	Access 700, LLC	Access 700, LLC
MEA021	Access 700, LLC	Access 700, LLC
MEA022	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA023	Pegasus Guard Band, LLC	Access 700, LLC
MEA024	Access 700, LLC	Access 700, LLC
MEA025	Pegasus Guard Band, LLC	Access 700, LLC
MEA026	Access 700, LLC	Access 700, LLC
MEA027	Access 700, LLC	Access 700, LLC
MEA028	Pegasus Guard Band, LLC	Access 700, LLC
MEA029	Access 700, LLC	Access 700, LLC
MEA030	Access 700, LLC	Access 700, LLC
MEA031	Access 700, LLC	Access 700, LLC
MEA032	Access 700, LLC	Access 700, LLC
MEA033	Access 700, LLC	Access 700, LLC
MEA034	Pegasus Guard Band, LLC	Access 700, LLC
MEA035	Pegasus Guard Band, LLC	Access 700, LLC
MEA036	Pegasus Guard Band, LLC	Access 700, LLC
MEA037	Access 700, LLC	Access 700, LLC
MEA038	Access 700, LLC	Access 700, LLC
MEA039	Access 700, LLC	Access 700, LLC
MEA040	Pegasus Guard Band, LLC	Access 700, LLC
MEA041	Pegasus Guard Band, LLC	Access 700, LLC
MEA042	Access 700, LLC	Access 700, LLC
MEA043	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA044	Access 700, LLC	Access 700, LLC
MEA045	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA046	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA047	Pegasus Guard Band, LLC	Access 700 Holdings, LLC
MEA048	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA049	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA050	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA051	Pegasus Guard Band, LLC	Pegasus Guard Band, LLC
MEA052	Access 700, LLC	Access 700, LLC

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); Declaratory Ruling on Reporting Requirement under Commission's Part 1 Anti-Collusion Rule (WT Docket No. 07-166); Second Report and Order

With this Second Report and Order, the Commission takes an historic step towards two goals that have been priorities of mine as Chairman: (1) creating a nationwide, interoperable public safety broadband network and (2) furthering pro-competition broadband policies designed to increase penetration and ensure that consumers benefit from innovation and technological advancements.

First and foremost, we have no greater responsibility than meeting the needs of public safety. And I appreciate the presence of so many representatives of the public safety community here today. During a crisis, public safety officials need to be able to communicate with one another. We are all aware of problems that have been created by the lack of interoperability for public safety communications during recent crises like 9/11 and Hurricane Katrina. Emergencies – natural or man-made – do not make distinctions among emergency responders. It is imperative that the Commission recognize these challenges and provide a communications solution for our Nation's first responders that is available to everyone, regardless of the uniform they wear or the towns in which they live and work.

The public safety-private partnership we adopt today will ensure that public safety keeps pace with the advances in communications and gives first responders the broadband communications capabilities they need to protect safety of life and property of the American public. It has been almost six years since brave police and fire fighters ran into the Twin Towers and the Pentagon without an effective emergency communications system. We should not make these brave men and women wait any longer.

While I also would have supported a network exclusively for the use of public safety, the simple reality is that there currently is no way to fund such an enterprise. The use of a public safety-private partnership, however, creates an opportunity to provide state-of-the-art technologies to our Nation's first responders in a timely and affordable manner. Many national and local public safety organizations have expressed support for a public-private partnership approach as their last, best chance to make this network a reality. We cannot afford to let the opportunity that the 700 MHz band offers for public safety pass us by.

The adoption of a National Public Safety Broadband Licensee to be a part of this partnership is also the best way to establish a truly interoperable network. The local licensing regime that has been used to date has resulted in a patchwork of networks that do not talk to each other. We cannot keep licensing public safety spectrum in the same manner as before and expect a different result. A National Public Safety Broadband Licensee will facilitate a unified national approach to the use of this spectrum, finally enabling all public safety users to talk to each other during a crisis. I therefore wholly support the public safety-private partnership adopted in today's order.

In addition, the license winner for about one-third of the spectrum will be required to provide a

platform that is more open to devices and applications. Consumers will be able to use the wireless device of their choice and download whatever software they want onto it.

I am committed to ensuring that the fruits of wireless innovation swiftly pass into the hand of consumers. Currently, American consumers are too often asked to throw away their old phones and buy new ones if they want to switch cell phone carriers. And when they buy that new phone, it is the wireless provider, not the consumer, who chooses what applications the consumer will be allowed to use on that new handset.

Wireless consumers in many other countries face fewer restraints: for example, they can take their cell phones with them when they change carriers, and they can use widely available Wi-Fi networks – available in their homes, at the airport or at other hotspots – to access the Internet.

This auction provides an opportunity to have a significant impact on the next phase of wireless broadband innovation. A network that is more open to devices and applications can help foster innovation on the edges of the network. As important, it will give consumers greater freedom to use the wireless devices and applications of their choice when they purchase service from the new network owner.

When the same decision was made decades ago on the wireline network, we saw an explosion in innovation and choice. In the wake of the Carterfone decision, AT&T subscribers went from renting black rotary phones to purchasing competitively priced, innovative phones such as cordless phones with voice mail and caller ID. Investment in the market increased, new phones and calling features were developed and consumers benefited. Ultimately, these rules facilitated the development of the Internet, as consumers were able to attach modems to the network and go anywhere the Internet could take them without interference from the network owner.

We will ensure these open platform rules are implemented, through significant enforcement mechanisms that place the burden on the licensee to demonstrate their compliance and that their policies are fair and reasonable. The auction provides a rare chance to promote innovation and consumer choice without disrupting existing networks or business plans. Indeed, the vast majority of spectrum used for wireless services will remain without such restrictions.

We must continue to encourage the critical investment needed to build the next generation wireless network. Since I have been Chairman, I have advocated strongly that applying network neutrality obligations, unbundling, or mandatory wholesale requirements to networks can undermine investment incentives. I do not support such regulations. The Order we adopt today does not apply these regulations to this block or any other block. The Commission has found the right balance between providing incentives for infrastructure investment and fostering innovation for new services and products.

The Commission recognizes that spectrum is a unique public asset, and we must obtain a fair return on this asset for the American people. To ensure that a fair price is paid, the Order includes a reserve price for this block of spectrum. That price, which is based on the winning bids for spectrum in our recent AWS-1 auction, will safeguard the value of the spectrum for American tax-payers.

Finally, the order adopted today provides a variety of block sizes and geographic areas, which will allow for broad participation by potential bidders with a variety service plans and business models. Stringent build-out requirements – the toughest ever imposed by the Commission – will ensure that this spectrum is put to use quickly in both urban and rural areas. Those who fail to follow through will face tough penalties including the loss of spectrum.

This mix includes a block of spectrum that contains the ingredients to allow a national wireless broadband service to emerge. I have said it before, but it bears repeating, the upcoming auction presents the single most important opportunity for us to achieve the goal of a nationwide third broadband pipe – one that would be available to rural as well as urban Americans. With the adoption of this order, we are one step closer to allowing all Americans to enjoy the benefits of broadband competition – availability,

high speeds, and low prices.

In conclusion, I am pleased that the Commission is adopting a fair and balanced plan that will help:

1) Facilitate next generation wireless broadband services in both urban and rural areas;
2) Establish a public-private partnership to deploy a wireless broadband network for public safety that will address the interoperability problems of today's system; and
3) Provide a more open wireless platform that will facilitate innovation and investment.

STATEMENT OF
COMMISSIONER MICHAEL J. COPPS
APPROVING IN PART, CONCURRING IN PART

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); Declaratory Ruling on Reporting Requirement under Commission's Part 1 Anti-Collusion Rule (WT Docket No. 07-166); Second Report and Order

Today we set the ground rules for how some of the most valuable spectrum on earth will be used. The stakes are enormous. Will our decisions today make our nation's citizens safer in the event of an emergency? Will they increase the number and quality of wireless services available to American consumers—to ***all*** consumers, both urban and rural? Will they help correct America's dismal broadband performance?

Let's begin with public safety, because that's the most critical part of all this. As I have many times said, my first preference—by a long country mile—would have been a fully-funded, federally-funded public-safety-grade network reserved solely for first responders and built to the specifications they deem essential for their job of protecting you and me. At this late date, that is apparently not to be. In light of the options before us today, then, I believe that pursuing a shared public-private model—and trying to make it work—is the next best choice. There are no guaranteed outcomes here, but we have to find a way—finally—to get this done.

For far too long, our nation's first responders have struggled with the lack of interoperability. The terrible costs of this failure became tragically apparent in the aftermath of 9/11 and again following Hurricane Katrina. Today's item creates a framework for building a national broadband network, based on a common technical standard, that will allow universal interoperability among every jurisdiction in the country. This represents a tremendous step forward.

Our nation's first responders have struggled for too long without finding the capital necessary to build out a broadband network with the configuration and the features they so desperately need and deserve. Given where we are today, I think it is entirely appropriate to permit them to trade access to their spectrum during off-peak periods—but always with the ability to preempt commercial use during any time of need—in return for access to a public-safety-grade broadband network. This network will reach virtually all of the nation's citizens within 10 years. It will be constructed to the standards that public safety demands and expects. And it will harness the astonishing technological advances of the commercial wireless sector. If it works—and it's a ***big*** if—the American people will be appreciably safer.

Moreover, the shared network concept means that public safety will have access to 20 MHz of broadband spectrum in the event of an emergency, not just 10 MHz. This too is a difference that can save lives. Bandwidth matters; speed matters.

One additional benefit of creating a national public safety licensee is the effect it will have on the price and quality of equipment that first responders use. Today, we have thousands of public safety agencies that deal with a handful of equipment manufacturers, so public safety doesn't have much protection against the higher prices big suppliers can charge for the tools public safety must have. Our

first responders can't negotiate lower prices, nor can they drive technology development. Today's order changes that equation. It establishes a single public safety purchasing block. This will result in equipment that is both better and less expensive, exactly what our nation's first responders need. The item also ensures that the national public safety licensee—and not the commercial operator—will have the final word on which devices public safety users can attach to the network.

I appreciate my colleagues' willingness to work with me to build these many safeguards for public safety into today's order. But I also want to emphasize my belief that our work has really just begun. At the end of the day, we need to ensure that this network ***actually works for public safety.*** To me, this cannot and will not happen without strong and ongoing FCC oversight. I have believed this for years. Today we put the Commission in the middle of the public safety action—right where it should have been all along. When the parties reach a network sharing agreement, the license will be granted only if the full Commission concludes that the terms reached are in the public interest. If agreement has not been reached, the full FCC has the authority either to decide outstanding disputes or to select another commercial entity to negotiate a different network sharing agreement. After the license has been granted, there will inevitably be questions about what a particular provision means or whether it is necessary to adjust certain terms in the agreement. Again, the Commission will be at the table, and it will be there during the ensuing operation of the license, too.

Only a strong, active and involved FCC can hold the commercial licensee to the spirit, as well as the letter, of the network sharing agreement. I have no illusions that this process will be easy—but the stakes are just too high to give this effort anything other than the fullest measure of the Commission's effort.

Let's get one more thing on the table. The requirements we announce today are very demanding. Building this network will involve costs above and beyond those required to build a typical commercial network. But I think that these are the minimum process requirements necessary to ensure that the network actually works for public safety. If the stringency of the requirements we announce today means that no one shows up to bid on the commercial license, or that the two parties ultimately cannot reach an agreement that ends up being in the public interest, then I am perfectly willing to go back to the drawing board. I won't be happy if this happens, but I'm not about to cut corners if it means compromising public safety. Far better that public safety remains in control of its spectrum—and free to find another model for funding it—than for this Commission to bless a sharing arrangement that does not fully protect the nation's citizens and its first responders.

Let me turn now to the commercial side of this auction. There is a lot in this part of the Order of which we can be proud—but here, too, there are no guarantees and some last-minute changes give me considerable pause. First, the good news. I commend the Chairman's leadership on the *Carterfone* issue. Six months ago, *Carterfone* was a term of largely historical interest—an important and venerable decision, to be sure, but hardly on the tips of most policymakers' tongues. Even four months ago, when I called for a general rulemaking on how *Carterfone* could be applied to the current wireless marketplace, I had little hope that such principles would be codified in our wireless rules anytime soon.

Now, within just the last month, *Carterfone* and wireless open access have been on the front pages of *USA Today*, the *New York Times*, and the *Washington Post*. They have been the subject of Congressional hearings and industry and academic policy forums, as well thousands of emails and letters to the Commission from citizens across the country. What a striking reminder of just how powerful a good idea can be—especially when coupled with strong Congressional oversight and grass roots activism. I find it extremely heartening to see that an academic paper—in this case by Professor Timothy Wu of Columbia Law School—can have such an immediate and forceful influence on policy. Credit is due to Professor Wu as well as many tireless advocates in the public interest and high-tech communities for bringing this idea to the fore. As Congressman Ed Markey, who has been a true trail-blazer here, put it: *Carterfone* "result[ed in] ... incredible innovation and [was] an unquestioned policy success. The FCC has a rare chance to foster similar innovation in the wireless marketplace in the upcoming auctions." Wireless *Carterfone*, in short, is an idea whose time has come.

It is especially heartening to see wireless open access getting so much attention because I am a true believer in openness and decentralization when it comes to ***all*** of the industries this Commission regulates. Whether we're talking about media ownership, the future of the Internet, video distribution, or ownership of wireless and wireline assets, I believe that reducing the power of gatekeepers and increasing the intensity of competition is the right policy call. It's the right call because it returns power to consumers and entrepreneurs and limits incumbents' power to extract monopoly or oligopoly rents. The device and application openness principles that today's Order implements for 22 MHz of the commercial spectrum will mean more choices, better services and lower prices. They will permit entrepreneurs to innovate without asking somebody else for permission—just as the developers of the fax machine, dial-up modem, and Wi-Fi router did.

Of course, as with so much of the Commission's work, the devil will be in the details. It is especially important that today's item gives consumers, device manufacturers, and other interested parties a right to seek redress if the C-block licensee seeks to discriminate against them. I believe that this case-by-case approach strikes the appropriate balance between preventing harm to the network and giving teeth to our anti-discrimination mandate. Justice delayed is often justice denied, the old adage says, and that is why I am happy that we announce today a 180-day shot clock for Commission enforcement decisions.

Even though the device and application openness principles are indeed good news, the Order does not go far enough in one important respect. We all know that America's broadband performance leaves a lot to be desired. To me, the culprit is clear: a stultifying lack of competition in the broadband market, which in the words of the Congressional Research Service is a plain old "cable and telephone . . . duopoly." A 22 MHz block of 700 MHz spectrum is uniquely suited to provide a broadband alternative, with speeds and prices that beat current DSL and cable modem offerings. Maybe this can happen yet in this spectrum, but by declining to impose a wholesale requirement on the 22 MHz C-block, the Commission misses an important opportunity to bring a robust and badly-needed third broadband pipe into American homes.

A wholesale requirement would have been sound policy for several reasons. First, requiring licensees to offer network capacity on non-discriminatory terms would have been an enormous shot in the arm for smaller companies—including those owned by women and minorities—that aren't interested in or capable of raising the huge sums necessary to build a full-scale network. Smaller entrepreneurs deserve an alternate path to wireless access. Wholesale would have been good news for them—and for consumers.

Second, a wholesale requirement would have leveled the playing field for companies that want to get into the network business but cannot break through the defenses erected by the massive incumbents who dominate the industry. It is not hard to see why companies with extensive networks and millions of customers are generally able to outbid new entrants, even deep-pocketed ones. After all, the incumbents are (quite rationally) willing to pay an enormous "blocking premium" just to discourage new competitors. And their existing network infrastructure gives them a huge cost advantage when it comes to building a new network. Our current spectrum rules are tilted too much toward companies with built-in, competition-killing advantages.

Moreover, due to the Commission's short-sighted decision a few years ago to eliminate spectrum caps, we have seen a wave of consolidation among wireless incumbents that has substantially increased the hurdles facing potential new entrants. And now we live in a world where the two leading ***wireless*** companies are owned in whole or in part by the leading ***wireline*** telephone companies. It is no knock on these companies to say that they may be more than a little reluctant to employ their spectrum holdings to put price and quality pressure on their wireline broadband products. What else would we expect them to do? The solution is to encourage an additional wireless competitor that has no affiliation with a wireline provider. A wholesale requirement would have given unaffiliated companies the fighting chance they need.

Third, the record in this proceeding clearly demonstrates a strong business case for the wholesale

model. Some parties initially raised doubts about whether a wholesale business model could be economically self-sustaining. I believe that the record compiled in this proceeding answers that question. Several sophisticated companies and financial institutions have concluded that wholesale is indeed a viable economic model.

I think it is very good news for consumers that we adopt build-out requirements in this band that are among the strongest and most innovative that we have ever adopted. Use-it-or-lose-it provisions, along with geography-based benchmarks in the lower band, will ensure that licensees have a reasonable period to make use of their spectrum rights, while also allowing third parties a chance to provide service in areas where the original licensees are not. In one respect, I would have gone further. I believe that Commissioner Adelstein's proposal that licensees who have met their 10-year benchmark should still be subject to "triggered" use-it-or-lose it provisions—because if a competitor is willing to make use of remaining unused spectrum, it should have the right to do so. Spectrum is too valuable a resource to allow it to lay fallow.

My deepening concern this afternoon is that this auction might not end up being the stimulus to a third pipe, the right to attach devices, to run applications and to encourage the innovation and entrepreneurship that we all hope for because of some add-on provisions. The item now imposes reserve prices on each of the individual spectrum blocks, something without precedent in previous auctions and something, it seems to me, rather at odds with letting the market pick the auction block winners. The procedure in this Order carries chilling risk to the success of the auction. If some of these blocks do not fetch the bid prices stipulated, perhaps because of gaming of the worst sort, they will be re-auctioned with weaker build-out requirements. If the 22 MHz block, where we hope for *Carterfone* open access principles, fails to elicit a $4.6 billion bid, it will be re-auctioned without *Carterfone* open access. In the end, all of this micro-managing virtually hands industry the pen to write the auction rules and to constrict all the opportunities this spectrum held forth. The end result could be: same old, same old. What a pity that would be!

In closing, we came farther on some things than many thought likely a few months, or even a few weeks, ago. There is much to approve in this Order. I will concur in two parts because wholesale open access is not stipulated and also because of the concerns I have discussed regarding how the micro-managed reserve pricing scheme could subvert the higher goals of the auction.

Many individuals and groups—too numerous to mention—worked hard to assist us in our deliberations on this proceeding. I do want to thank the Bureaus and particularly commend Chief Derek Poarch and Fred Campbell for their insights, vision, constant availability and just plain dogged determination to get to a promising result. I want to thank the public safety community who gave so generously of its perspective and counsel; consumer and advocacy groups that worked to make this more consumer- and democracy-friendly, and the many entrepreneurs and business leaders who shared their perspectives on how to make this effort viable. I thank my personal staff, particularly Bruce Gottlieb, for his tireless efforts, and also the staffs of my colleagues. I am grateful to Chairman Martin for his vision and courage, and I thank each of my colleagues for their commitment to public safety and their yeoman work on this important proceeding. This has been a truly monumental effort. I hope it works. And I pledge my ongoing commitment to make that happen.

STATEMENT OF COMMISSIONER JONATHAN S. ADELSTEIN APPROVING IN PART, CONCURRING IN PART

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); Declaratory Ruling on Reporting Requirement under Commission's Part 1 Anti-Collusion Rule (WT Docket No. 07-166); Second Report and Order

Our decision today is one of the most significant and groundbreaking we have conducted in the time I have served. These 700 MHz licenses are the finest crown jewels the FCC has to put up for auction. This coveted spectrum presents us with a historic opportunity to facilitate vibrant, spectrum-based opportunities for both consumers and wireless providers. I am pleased that today's item, to some extent, embraces this potential for the next generation of wireless broadband service providers. I commend Chairman Kevin Martin for his leadership in steering this item on a consensus path that serves consumers.

Most of the time, our decisions are relatively narrow – limited to a specific issue or segment of industry. Other times, we are presented with an opportunity to shape a larger segment of the market. On this rare occasion, we are presented with the dual opportunity to fundamentally begin to change the way over 200 million U.S. consumers receive their wireless services, while at the same time substantially redefining the FCC's approach to spectrum policy for years to come.

It would have been easier to stick with what's tried and true in considering the 700 MHz band. We could have declined to adopt any controversial conditions to open the market; we could have stuck with our traditional substantial service construction standard; we could have allowed public safety agencies to fend for themselves in trying to develop a long-awaited interoperable network. We could hold a fine auction without much effort. But because our job is to promote the public interest, the status quo was not an option.

I have heard the plea of 250,000 consumers who submitted comments in support of open access. I have heard the concerns of Silicon Valley's best minds expressing frustration with their inability to innovate in the wireless space. I have heard the public safety community's cry for help, and their willingness to join their spectrum with a commercial provider in order to create a unique public-private partnership. And we've responded.

Open Access. While this item does not deliver everything consumers and innovators wanted, or many of the improvements I suggested, our decision today represents an important step, if a modest one, in the right direction. We can be proud to say we are offering consumers a new paradigm they have longed for and certainly deserve. We cannot afford to let innovation in wireless devices and applications take root in Europe and Asia before it can occur in the U.S. If we want to maintain our world leadership in technology, we need to harness the full creativity of our many wireless engineers and entrepreneurs. We need to unleash them from the shackles of a handful of gatekeepers who dominate access to the wireless mass market.

The item before us is a positive step for consumers because its sets in motion a new approach. I

am pleased with the willingness of my colleagues to support a meaningful, though not perfect, open access environment on a significant portion of the 700 MHz spectrum. It represents an honest, good faith effort to establish an open access regime for devices and applications.

I especially appreciate my colleagues' willingness to work with me to include real enforcement with teeth, and provisions to promote a genuinely open standard that innovators can build upon. The Order before us is significantly improved in these areas, although the true test of their effectiveness will be seen over time and through future Commission actions and oversight. So, we'll need a true commitment if this Order is going to be effective. If successful, our approach can ultimately lead to benefits for the many consumers who so desperately want unfettered ability to use any wireless handset and download any application they want on the C Block spectrum.

The past several years have seen an explosion of new opportunities for consumers, like Wi-Fi, WiMax, and more advanced mobile services. But despite these technological advances, consumers are frustrated by arbitrary limitations on the types of devices and functions they can access. The open access requirements we adopt today can and should improve the consumer experience. Now, instead of being limited to purchasing a phone and service contract from one network provider, a consumer can purchase any wireless device compatible with the C Block network and use all of the available features and functions.

This also means progress for wireless innovators – application developers, manufacturers, and carriers alike who will now be unleashed to bring new multi-media products to market for use on this spectrum. The Internet has been a source of remarkable innovation and an engine for economic growth and productivity. It is critical that we bring the benefits of the Internet to the wireless world, and I believe our actions today take us in that direction.

Wholesale. One of the best options for promoting broadband, particularly in rural areas, and for providing new competition all across the country, is maximizing the potential of spectrum-based services. Instead of the third "pipe," this holds promise as the third "channel." Or – if we can wax truly optimistic – perhaps we have an opportunity for a fourth or fifth channel through the innovative use of spectrum. Ideally, this auction will facilitate the emergence of new broadband channels with the goal of providing consumers everywhere the benefits of a high-quality wireless broadband network.

Though we have hope and expectations for this auction, we must recognize that today's decision alone won't solve our broadband challenges, nor will it provide any instant remedies. Even if all goes well, today's decision won't afford opportunities until 2010 at the earliest. Yet, right now, we face major challenges bringing affordable, truly-high speed broadband to all our communities and ensuring that we give our citizens the same choices and tools that are available to citizens in the countries that are our leading global competitors. So, we can certainly ill afford to claim "victory" and sit idly on our hands for the next two plus years.

While I remain hopeful that such a third channel does emerge, I am concerned that we haven't done enough here to open up these critical airwaves to badly needed competition in the broadband space. Those who argue such measures are not necessary because the wireless market is already competitive miss the point. The real problem is the lack of competition in the *broadband* market, where 96 percent of consumers are served by the incumbent telephone or cable company.

I believe that a truly open wholesale model would stand as a breeding ground for innovation, for allowing new and diverse competitors to flourish, and for spurring unparalleled levels of competition into the broadband marketplace. While this item represents progress for consumers in terms of new openness for devices and applications, I can only concur to this portion of the item because we could have done more to promote open markets by adopting a wholesale model to attract vigorous competitive alternatives.

We have also lost an opportunity to provide crucial bidding credits to designated entities that

wholesale fully built-out network services. I think it is essential that we revisit our policies in this respect to ensure that all bidders have opportunities to bid, particularly where wholesale service is a compelling option for new and diverse providers.

We have had to strike a compromise – and while the measures we take here today are less than what I would have proposed, they are significant and will serve consumers well. At the end of the day, though, I am afraid we may have missed a golden opportunity to open that elusive third channel into the home.

Band Plan and Service Rules. I've often talked of "spectrum facilitation" – looking at all approaches, technical, economic or regulatory, to get spectrum into the hands of operators ready to serve consumers at the most local levels possible. We have a special responsibility to establish band plans that allow for a diversity of license sizes and to maximize the level of utilization by giving more options so that the market can perform most efficiently. I recognize that many small providers believe that we have failed to provide for them today. I am somewhat frustrated that the pro-consumer open access provisions were tied to a large 22 MHz block, and would have been happy to break that into pieces that could have better accommodated the needs of a variety of sizes of players. I am also concerned that the reserve price and second auction requirements set out in this item leave open a real potential for gaming and may result in unintended consequences.

But I am pleased that we have added a paired Economic Area block in the lower band to the Cellular Market Area license already set for auction. And, as discussed below, we have adopted aggressive build-out requirements to promote network buildout. These are significant changes that will help provide additional opportunities for small and mid-sized interests, rural providers, and new entrants.

Our job at the FCC is to do whatever we can to promote spectrum-based opportunities in the future. 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 our item today, we adopt some of the strongest performance requirements in history to ensure that this wireless frontier truly gets developed. As we did with the homesteaders 150 years ago, we are happy to get this prime real estate in the hands of those that will use it. Just like the government required of homesteaders, we want this fertile soil tilled and put into use, including in rural areas of the country. Out of this development will sprout the fruits of innovative product and service offerings to every corner of America.

Regrettably, though, I have long advocated the adoption of a triggered "keep what you use" approach to spectrum policy, and I am disappointed that such an approach is not adopted in this item. I am hopeful we can make progress on this because I think it presents the best vehicle to ensure that fallow spectrum is either put to use or made available to other interested parties.

Public-Private Partnership for Public Safety. Finally, I'd like to turn to perhaps the most paramount issue for this Commission: public safety. The role of communications is so important during emergencies, whether citizens are trying to find out what is happening with their families or emergency personnel are responding to an urgent situation. It is critical that the Commission provide the best leadership possible to ensure that communications are fully operational during these most serious events. Indeed, this is one of our core directives under the Communications Act of 1934, codified in the Act's very first section.

The Commission can and must play a key role in improving our nation's disaster preparedness, network reliability, and communications among first responders. This item marks a pivotal step in addressing the needs of public safety. Six years after the tragedies of 9/11 and three years after the 9/11 Commission issued its report on terror attacks on the United States, our country is still without a national

interoperable public safety broadband network. Policymakers all agree that our first responders need the best technology and communications network possible. Yet to date, there have been no other viable plans brought forward to realize the critical need for an interoperable network for public safety.

The implementation of this shared commercial and public safety network presents a myriad of complex and novel issues. There is no guarantee that the model we've created here will nurture a nationwide interoperable public safety system that is both commercially viable and technically feasible. And while I would prefer direct Federal funding for building a national public safety broadband network, it presents the only option available to us at the Commission. For this reason, I am happy that this Commission is stepping forward to meet this challenge by paving the way for a public/private partnership. This may be the only way to realize the important goal of making a nationwide and interoperable network truly available to our nation's first responders.

Conclusion. There's an old expression that to make an omelet, you have to break some eggs. Today, we are cooking up a new age of wireless services. I appreciate the steps we are taking, and am pleased that we are moving forward in ways that this Commission would have never even considered a year or two ago. I look forward to a successful auction and the successful implementation of our exciting new policies.

STATEMENT OF
COMMISSIONER DEBORAH TAYLOR TATE
APPROVING IN PART, CONCURRING IN PART

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); Declaratory Ruling on Reporting Requirement under Commission's Part 1 Anti-Collusion Rule (WT Docket No. 07-166); Second Report and Order

To begin, I also would like to thank the staff of the Wireless Bureau and the Public Safety and Homeland Security Bureau for their incredibly hard work on this item.

With the upcoming auction of spectrum in the 700 MHz Band, we have the historic opportunity to generate billions of dollars for the U.S. Treasury and its taxpayers, spur the development of broadband to rural Americans, and support the creation of a nationwide interoperable broadband communications network for the benefit of state and local public safety users—and ultimately for the safety and security of all Americans. A majority of this Commission has agreed to the rules established by this item and I cannot say they are totally wrong. I may not agree with their reasoning or philosophy, but this is a very close call. Given the importance of this auction, our statutory time constraints and my desire to always try to reach a consensus, overall I support the item, noting my strong support for the portions of the order related to public safety service, while being lukewarm regarding the portion of the item that places what my colleagues call "open access" in the C Block on devices. I can only concur as to the majority's extension of open access to applications. There is much that is good about this item, but it is by no means a perfect one.

I would have preferred, as some commenters noted, to have a full and open hearing, time for thoughtful discussion within the context of another, more appropriate legal venue. However, this was my only chance to have what I consider a more positive impact on a less than perfect experiment.

First and foremost is our joint desire and one we have all spent a great deal of time discussing: a nationwide broadband infrastructure for public safety. The promise of this type of network will help finally fulfill important and indeed life-saving goals of the 911 Commission, our own post-Katrina panel as well as what we have seen and heard around the nation: the ability for a firefighter and a police chief to communicate during a local emergency.

Regarding our public safety community, the dissemination of vital information and interoperable communications are the backbone of our defense against attacks on our homeland, as well as our ability to respond to natural disasters or even an environmental crisis or pandemic. Today's item strengthens this defense. In addition, we re-band the public safety spectrum in a way that will allow more broadband service to the public safety community by working in cooperation with the commercial licensee involved in a public/private partnership. With input from the public safety community regarding their needs and desires and a number of fascinating, entrepreneurial concepts proposed in the comments, the public/private partnership made possible by this order also will help create important incentives for a commercial entity to serve private consumers as well as the public safety community as they protect the safety of life, health, and property of all Americans. We also adopt strict build-out rules for the commercial licensee in this partnership, with an aggressive schedule for serving public safety users.

In addition, I am pleased that the item helps promote broadband service in rural America. Broadband deployment means, or should mean, the availability of advanced services to all Americans. As a former state official in a state with a large rural population, expanding the availability of broadband beyond the largest cities is important to me. Just last week, I joined Tennessee officials for the announcement of "Connect Tennessee". This public-private partnership, already wildly successful in Kentucky, will be a blueprint for expanding and encouraging all types of broadband connectivity. This item takes an important step towards this goal by adopting smaller geographic license areas for almost half of the spectrum to be auctioned in the 700 MHz Band. Such a policy makes it easier for small and rural service providers – firms that often best know the rural consumer – to acquire the spectrum they need to serve in these rural markets. We also establish strict build-out requirements to ensure that the majority of consumers, including those in rural areas, are served.

For the most part, the rules that we apply to the 700 MHz Band also will allow licensees the flexibility they need to experiment and develop those services that are demanded by consumers. Similarly, the mix of geographic license areas – including smaller license areas over CMAs and EAs as well as larger license areas – will allow potential service providers of all sizes to more easily acquire spectrum licenses that meet their business needs.

We take other steps in this order in a similar effort to allow consumers more control over the devices and applications they use in one specific block, the Upper 700 MHz C Block. I am hesitant to use the term "open access," since it means different things to different people. Here, I interpret our decision to pertain to "unlocking and unblocking" legal devices and applications as used by the consumer, while also recognizing and specifically allowing for protection of the network, and nothing more. I hope this decision will unleash untold new devices and applications that users will be able to enjoy at home, at work, on the go, in hotspots, and in rural areas.

Many consumers want mobile devices that are not tied to any one network. For this reason, I support device portability as yet another means of consumer choice. I also recognize that at least some network operators increasingly are giving their customers this option, or stating they may give this option, in the future. Thus, to some extent, the item we adopt today simply codifies what the market already is doing.

Many consumers also want to access a variety of applications, including some currently not available under arrangements with many network operators. This issue poses great potential for incredible consumer benefit. It also poses risks.

Moreover, we should keep in mind that our wireless infrastructure, including commercial wireless infrastructure, plays an important role in supporting public safety and homeland security. The conditions we adopt today are designed to apply so long as the operator's network is properly protected. We should not underestimate the value of reasonable requirements established by a network operator to protect its network and allow for compliance with its regulatory obligations, such as an obligation to provide e911 service.

None of us would want an e911 call to go unanswered because it could not find its way through a maze of movie and music downloads, or malicious software. Thus, the network operator must be able to reasonably manage the foreign applications on its network.

I also recognize that, in adopting these limited conditions, we also may influence the next generation of industry structure. Mandating a certain type of industry structure in one band may have a positive impact, and certainly that is what we hope. Again, we must carefully consider the risks.

We should not forget that the U.S. wireless market that has so effectively served American consumers is one of the most competitive in the world, with prices lower, and usage higher, than any country in Europe and almost any country in the world. It also is a market with great innovation, including, most recently, the Apple I-phone and a Sprint Nextel partnership with Google to bring applications via WiMax service.

I hope today's item will not result in unexpected negative consequences, such as consumers seeing less of such innovations or losing access to the many packages of services they enjoy today. If this effort is successful, consumers will enjoy the fruits of one additional type of business model in the years to come. In the end, it is the consumer and the marketplace who will be the judge.

It is with these concerns that I support the narrowly tailored requirements in this order. However, let me be clear regarding what it does not include. As adopted here, these rules do not apply to any currently issued spectrum license. They do not directly affect any existing network. They do not affect any existing pricing structure. Carriers will still be free to establish business plans of their choice, including, for instance, pricing models based on the amount of bandwidth used, tiered pricing, or other innovations we have not yet seen. Carriers also will retain the ability to establish reasonable safeguards in order to protect their network. Moreover, even if a device meets network certifications, wireless providers of course may stop malicious or illegal applications. Similarly, carriers will not be liable for harms that arise out of the use of foreign devices, including harms related to applications used on such devices, much like our treatment of cable and wireline providers when customers use foreign devices on their networks. Given our recognition of the importance that wireless infrastructure plays – and will continue to play for years to come – in homeland security, the carriers are held harmless for devices and applications that cause network failures that may affect e911, CALEA, or other social obligations required by law.

We also provide even more safeguards regarding the auction proceeds and the potential winning bids pursuant to the Deficit Reduction Act of 2005, by setting a reasonable reserve price for spectrum blocks in this auction. Thus, if we are wrong about the "open access" conditions and the reserve price is not met, then this spectrum block, as the Chairman recently testified, will immediately be re-auctioned without any of these conditions.

My hope is that we have created an incubator for the next killer app, the next platform or the next cool device. In fact, the entrepreneur-inventor who will make all this happen is probably just in the 8th grade. We have provided one finite place to encourage the next fantastic innovation to occur and for Americans to roam free across networks, miles and corporate business models.

STATEMENT OF
COMMISSIONER ROBERT M. McDOWELL
APPROVING IN PART, DISSENTING IN PART

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); Declaratory Ruling on Reporting Requirement under Commission's Part 1 Anti-Collusion Rule (WT Docket No. 07-166); Second Report and Order

First, I would like to thank my colleagues, the dozens of bureau professionals, the scores of representatives from the tech community, the investment community, consumer, public safety, public interest groups, and potential bidders - both large and small - with whom I have met and who have worked so hard on what is being dubbed the "auction of the century." Thank you for your suggestions and insight regarding what is the best way to use this spectrum to meet the demands of American consumers. This is an historic day for the Commission and for America.

The Order before us has certain positive attributes. Among them is the plan to spark a public/private partnership for public safety by allocating an additional 10 megahertz of spectrum to aid in the construction of a nationwide, interoperable network. This plan has been assembled as the result of close coordination with the public safety community, and I am pleased to support it. We all owe many thanks to my distinguished colleague, Commissioner Copps, for his passion, vision, leadership, and toil on this matter that is so vital to our country. Of course, the next step is to ensure that a bidder willing to accommodate public safety's specifications buys this slice of spectrum at auction and builds it out in a timely manner with state-of-the-art technology. With today's action, public safety will have about 107 megahertz of spectrum at its disposal.[1] So it appears to me that ongoing efforts should more closely focus on attaining the quickest and most efficient use of this spectrum. Protection of America's security can't wait any longer.

Another positive attribute of today's Order is the band plan for the commercial blocks of the 700 MHz spectrum, which I am supporting. This band plan has been advocated by a wide variety of interested parties, including possible new entrants, Silicon Valley companies, as well as existing wireless license holders. The band plan, minus the open access condition, could provide new opportunities for a wide variety of technologies and business plans.

With respect to performance requirements for the commercial spectrum, I have listened to parties discuss the merits of various requirements with an open mind. On the one hand, it is important that the Commission not set the bar too high, which may cause licensees to deploy less robust technologies. On the other hand, this spectrum has excellent propagation characteristics, so network construction should be more economically efficient. Certainly we want to ensure that all Americans, no matter where they live or work, have prompt access to advanced wireless services. I support the requirements set forth in the

[1] *See* Report to Congress on the Study to Assess Short-Term and Long-Term Needs for Allocations of Additional Portions of the Electromagnetic Spectrum for Federal, State and Local Emergency Providers, Federal Communications Commission ¶ 5 (rel. Dec. 21, 2005).

Order, and am pleased that the new rules will allow interested entities access to any un-built spectrum sooner rather than later.

After careful deliberation, my conclusions regarding some of the other more-publicized issues are as follows:

1) While we can agree on the destination -- consumers should be able to enjoy device and application portability if they want -- we may respectfully disagree about the best path to get there;

2) In an unencumbered auction, any winning bidder is free to offer those features without restrictions;

3) Large wealthy corporations interested in a particular business plan do not need the government's help in this auction; and

4) In the absence of market failure, I favor a market-based pro-competition solution to the challenges raised in this proceeding over a prescriptive regulatory approach.

In other words, I am disappointed that the majority didn't try to work with industry to forge a consensus solution rather than rushing to regulate without thinking through possible unintended consequences.

As background, my original vision for the 700 MHz auction was for our rules to maximize investment, innovation, and consumer choice by promoting competition through the crafting of a wide variety of unencumbered market and spectrum block sizes. We had the opportunity to help foster the development of a fourth, fifth or sixth new broadband pipe offered perhaps by small town entrepreneurs or new regional players. In fact, we've heard from a broad array of companies, and an overwhelming number of Members of Congress on this important point. Unfortunately, the encumbered spectrum structure supported by the majority will force large wealthy bidders away from the Upper Band and into the smaller, unencumbered blocks in the Lower Band. Smaller players, especially rural companies, will be unable to match the higher bids of the well-funded giants.

Depriving the nascent 700 MHz market place of smaller new entrants will result in less innovation and competition, not more. Consumers could be short-changed as a result. And it is small new entrants that should be as important to this equation as large new entrants. Pinning our hopes on a single national "white knight" to offer only one new pipe is risky at best. And keep in mind that the Commission's rules do not prevent any bidder from offering any kind of new application or functionality, including device portability, or from aggregating smaller market sizes to forge a national footprint, as we witnessed with last summer's Advanced Wireless Services auction. Throughout this proceeding, I have not heard a convincing argument refuting why wealthy Silicon Valley new entrants are not as capable of bidding on unencumbered spectrum as other wealthy companies. More importantly, I remain unconvinced that the Commission must favor large companies over smaller entrepreneurs. Why not give both an equally fair shot with *one* open, condition-free auction that offers varied market and spectrum block sizes?

Curiously, however, in an effort to favor a specific business plan, the majority has fashioned a highly-tailored garment that may fit no one. It's not what Silicon Valley wants; it's not what smaller players have told me they want; and it's not what rural companies want. To date, the Commission has received no assurances that any company is actually interested in bidding on the encumbered spectrum. Not one. The majority recognizes the risk that the encumbrances pose by taking the unprecedented step of designing a fall-back "Plan B" auction in the event the first auction fails. Perhaps the majority has only little more confidence in its plan than I do.

If this new regulatory regime is all in the name of fostering device and application portability, I want consumers to know that the seeds of these offerings are already germinating. The wireless market is

starting to deliver device and application portability because it has been allowed to function freely and has been responsive to consumer demand. For example, over the past couple of years, wireless carriers have offered at least ten different phones that are compatible with *any* Wi-Fi network. This capability allows consumers to navigate the Internet just as they can on their home computer, and download software such as voice over Internet protocol applications, or popular search engines.

Savvy consumers may be the only ones who are "in-the-know" today, but they are the early adopters who are paving the way for the rest of us laggards. Further, these business developments are by no means the end of the innovation that is rising above the horizon, but the beginning of a brighter revolution that is already dissolving walled gardens across all platforms. Just ask America Online about the long-term viability of a walled garden strategy. So, I'm not sure it makes sense for the majority to take credit today for spurring device and application portability when it's sprouting on its own.

The new regime adopted today is being imposed against the backdrop of a vibrant wireless market. Just last fall, in our *2006 Wireless Competition Report*,[2] all five of us concluded that it was healthy, open and competitive. There, we noted that, over the last 13 years, wireless subscriber growth has grown exponentially and competition among numerous providers has flourished. Ninety-eight percent of the total U.S. population continues to live in counties where three or more different operators compete to offer wireless service, while nearly 94 percent of the U.S. population continues to live in counties with four or more different operators competing to offer service.[3] At the same time, prices are decreasing. Our report estimates that revenue per minute (RPM) declined 22 percent in 2005 alone.[4] RPM currently stands at $0.07, as compared with $0.47 in December 1994 – a decline of 86 percent.[5]

It is interesting that today's Order does not cross reference or otherwise discuss the Federal Trade Commission's recent unanimous and bipartisan finding that there is no need for net neutrality regulations like the ones imposed today.[6] Only one month ago, the FTC's Internet Task Force recommended that policymakers proceed "with caution before enacting broad, *ex ante* restrictions in [the] unsettled, dynamic environment" of broadband Internet access.[7] Specifically, the report concludes that the effect of potential conduct by broadband providers on consumer welfare is "indeterminate."[8] The report adds, "No regulation, however well-intended, is cost-free, and it may be particularly difficult to avoid unintended consequences here, where the conduct at which regulation would be directed largely has not yet occurred,"[9] and cites growing consumer demand, increasing access speeds, falling prices, and new market entrants as evidence that competitiveness in the broadband Internet access industry is moving in the right direction.[10] Today's Order offers no evidence to refute the FTC's findings and conclusions. Furthermore, the FCC should heed the FTC's warning about the unintended consequences of unnecessary regulation.

Perhaps most surprisingly, today's Order acknowledges that the Commission need not decide

---

[2] Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, WT Docket No. 06-17, *Eleventh Report*, 21 FCC Rcd 10, 947 ¶ 2 (2006).

[3] *Id.* at 10,964 ¶ 41 (2006).

[4] *Id.* at 11,008 ¶ 154.

[5] *Id.*

[6] Federal Trade Commission, Internet Access Task Force, Broadband Connectivity Competition Policy FTC Staff Report (rel. June 27, 2007).

[7] *Id.* at 9.

[8] *Id.* at 157.

[9] *Id.* at 155.

[10] *Id.*

whether competition is sufficient enough to refrain from imposing open access requirements in this proceeding because these questions are being considered more broadly elsewhere. Despite this express acknowledgement, however, the majority seeks to "encourage additional innovation and consumer choice" and "spur the development of innovative products and services" by encumbering the C Block license. At the same time, the Order does not dismiss or otherwise dispose of the pending *Skype Petition*.[11]

Moreover, the majority's decision to impose "open access" requirements on the C Block licensee represents a sharp departure from well-settled FCC precedent. First, the decision runs contrary to the market-driven framework established by Congress. Starting at least as early as 1994, the Commission established as a principal objective the goal of ensuring that unwarranted regulatory burdens are not imposed upon any wireless providers.[12] Just this year, I was pleased to support the Commission's action to classify wireless broadband Internet access service as an information service because our determination will maximize innovation and consumer benefits as wireless services continue to flourish and evolve. By dictating how spectrum must be used, the majority is locking the Commission into a particular approach that is not guaranteed to work but is guaranteed to be nearly impossible to change.

Some say that *Carterfone*-style regulations are appropriate for application to today's wireless marketplace because application of that policy revolutionized the wireline marketplace.[13] Before arriving at the Commission, I spent my entire career counseling wireline entrepreneurs. There is a world of difference between the wireline industry of the 1960's and today's wireless market.

First, the AT&T of the 1960's was a nearly 100-year-old government protected and subsidized monopoly. By any measure, today's U.S. wireless service providers lack market or monopoly power, as this Commission concluded just 10 months ago.[14] Second, unlike wireline voice services offered in the 1960's, today's U.S. wireless service providers have never integrated into the applications or equipment markets. Third, under common antitrust analysis, today's wireless providers lack the ability to exercise buying power over upstream handset suppliers, of which there are many competitors, which wield significant countervailing selling power. Fourth, wireless service providers are not subject to price regulation in the market in which they are alleged to have market power, which otherwise might encourage them to seek profits in complementary markets.[15]

Others cite the European wireless marketplace as the one the U.S. should emulate. A closer look reveals that the European scenario isn't so rosy. First, as noted earlier, in our *2006 Wireless Competition Report*, the Commission found that, in addition to the four nationwide mobile telephone operators in the U.S., several large regional operators and a significant number of mobile telephone operators with smaller footprints compete in many regional and local U.S. markets.[16] In contrast, in Western Europe, national

---

[11] *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, RM-11361 (filed Feb. 20, 2007).

[12] *See* Implementation of Sections 3(N) and 332 of the Communications Act Regulatory Treatment of Mobile Services, *Second Report and Order*, 9 FCC Rcd 1411, 1418 ¶15 (1994).

[13] *See, e.g., Skype Petition.*

[14] As of Dec. 2005, the market power of Cingular Wireless (now AT&T) is 26.8 percent and that for Verizon Wireless is 25.4 percent. *See 2006 Wireless Competition Report* at Table 4. *See also* Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services, *Fourth Report & Order*, 15 FCC Rcd 13523, 13528 ¶ 12 (2000) (explaining that "*Carterfone* involved AT&T, the dominant provider of telecommunications at that time .... [t]hus, the Commission has not applied principles established there to interconnection to carriers without significant market power, such as CMRS providers").

[15] *See* ROBERT W. HAHN *ET AL.*, THE ECONOMICS OF "WIRELESS NET NEUTRALITY" (AEI-Brookings Joint Center for Regulatory Studies 2007).

[16] *See 2006 Wireless Competition Report*, 21 FCC Rcd at 10,967 ¶ 50.

mobile operators do not face competition from smaller facilities-based carriers like they do in the U.S.[17] The top two competitors in Germany and Italy, for instance, have a combined market share of 74 percent.[18] In Finland, the combined share is 85 percent.[19] Whereas the FCC has consistently resisted broadly imposing technology mandates, European regulators mandated the use of a single technology: GSM. Given the dearth of choice among carriers and technologies, European per minute rates are high – approaching 22 cents per minute. Roaming rates from country-to-country are even worse – sometimes $1.50 per minute. Additionally, up front costs to consumers are much higher there than here.

I have also heard that today's action is just like the Commission's adoption of Wireless Local Number Portability (LNP) requirements in 2003. I disagree. First, the Commission mandated LNP only after years of attempts to broker negotiations between industry and consumers ended in failure. No such effort at negotiation has been attempted here. On a substantive level, LNP does not involve complicated network management issues like device and application portability does. Instead, LNP is completed through a simple computer dip, which has nothing to do with the complexities of a carrier's network. Finally, without knowing what standard(s) the C Block licensee will adopt, it is unclear in today's Order whether its customers will be able to port to other networks. I wonder whether this will lead the Commission down the path of imposing a European-style technical standard.

With respect to auction reserve prices, I believe these are best left to market forces. Like artificial conditions, reserve prices have the effect of skewing the auction and hindering the efficient allocation of spectrum. The problem with setting reserve prices is that it puts the Commission, rather than the market, in the precarious position of identifying the right value for the spectrum.

Finally, I am disappointed that the majority has rushed headlong to regulate with scant evidence in the record and without undertaking a sincere effort to try to bring together consumer groups, industry and all interested parties to broker a private sector solution to any perceived imperfections. The Commission has a long and proud history of meeting similar challenges in such a positive and constructive way. I wish we had done so here.

For these reasons, I respectfully cast my very first dissent in part. Specifically, I dissent from Sections III.A.2.a.iii. (Open Access) and III.A.3.d. (Reserve Prices) of today's Order.

[17] *Id.*

[18] *Id.* at 10,967 ¶ 51.

[19] *Id.*