

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

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

SECOND REPORT AND ORDER

Adopted: March 8, 2000

Released: March 9, 2000

By the Commission: Commissioners Ness and Tristani issuing separate statements; Commissioners Furchtgott-Roth and Powell approving in part and dissenting in part and issuing separate statements.

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I. INTRODUCTION AND EXECUTIVE SUMMARY

1. In this Second Report and Order, we adopt service rules for licensing Guard Bands that encompass six megahertz of spectrum in the 746-764 MHz and 776-794 MHz bands (the “700 MHz band”) that have been reallocated for commercial use from their previous use for the broadcasting service.¹ In the *700 MHz First Report and Order*, we adopted service rules for thirty of the thirty-six megahertz reallocated for commercial use,² and established two paired guard bands, one of 4 megahertz and one of 2 megahertz,³ located adjacent to spectrum allocated for public safety use.⁴ This Second Report and Order adopts licensing, technical, and operational rules for the remaining six megahertz.

2. Specifically, in this Second Report and Order we make the following determinations for licensing and operations in the 700 MHz Guard Bands:

- To minimize the potential for harmful interference to public safety operations in the immediately adjacent 700 MHz spectrum, we adopt a package of interference protections modeled on the interference standards within the 700 MHz public safety spectrum. Thus, 700 MHz public safety licensees should experience no greater interference risk from Guard Band users than from other public safety licensees. Accordingly, we will require entities operating in the Guard Bands to comply with specified “out-of-band emission” criteria, and with prescribed frequency coordination procedures that include advance notification to the Commission-recognized public safety frequency coordinators and adjacent area Guard Band users. To reduce the potential for such harmful interference to public safety operations, we also find that entities operating in the Guard Bands should not be permitted to employ a cellular system architecture, an architecture not used by public safety licensees. These restrictions will give the fullest effect to the Congressional mandate to ensure that public safety licensees in the 700 MHz band operate free of interference from any new commercial users in that band.

- We will assign licenses in the Guard Bands to Guard Band Managers using competitive bidding. The Guard Band Manager will be a new class of commercial licensee who will be engaged in the business of leasing spectrum for value to third parties on a for-profit basis. Guard Band Managers will be required to adhere to strict frequency coordination and interference rules, and control use of the spectrum so as to facilitate protection for public safety. The Guard Band Manager may subdivide its spectrum in any manner it chooses and make it available to any system operator, or directly to any end user for fixed or mobile communications, consistent with the frequency coordination and interference rules specified for these bands. We believe that Guard Band Manager licensing for the Guard Bands is an effective and efficient way to manage this spectrum to protect public safety operations in adjacent bands.

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

² The 30 megahertz of spectrum consists of the 747-762 MHz and 777-792 MHz bands.

³ The 2 megahertz Guard Band includes 746-747 MHz and 776-777 MHz and the 4 megahertz Guard Band includes 762-764 MHz and 792-794 MHz.

⁴ 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*, FCC 00-5 (rel. Jan. 7, 2000) (“*700 MHz First Report and Order*”). See also Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission’s Rules, WT Docket No. 99-168, *Notice of Proposed Rulemaking*, 14 FCC Rcd. 11006 (1999) (“*NPRM*”).

- We will allow the Guard Band Manager the flexibility to subdivide its spectrum, and lease it to third party users without having to secure approval for the transfer or assignment of its license. Additionally, although we adopt a performance standard under which the Guard Band Manager will be required to provide substantial service during the term of its license, the Guard Band Manager will be able to meet that standard by leasing spectrum, rather than by incurring the substantial capital costs associated with system buildout. This licensing represents an innovative spectrum management approach that should enable parties to more readily acquire spectrum for varied uses, while streamlining the Commission's spectrum management responsibilities.

- We will not impose any restrictions on the type of customers with whom Guard Band Managers may seek to do business. We will also give Guard Band Manager licensees significant flexibility, within the technical constraints necessary to protect public safety, to tailor use of their assigned spectrum.

- We will auction licenses for both the 2 megahertz and the 4 megahertz Guard Bands on the basis of 52 Major Economic Areas (MEAs). MEAs will facilitate greater participation in the auction and allow a larger number and more diverse pool of Guard Band Managers than nationwide or larger regional licensing areas, resulting in increased competition and broader flexibility in spectrum offerings by Guard Band Managers. We also will provide an opportunity for both aggregation and partitioning of geographic areas to suit a wide variety of possible business plans, as long as it can be shown that such aggregation or partitioning will not adversely affect public safety.

- To facilitate the Commission's compliance with its statutory obligation to deposit the proceeds from the auction of licenses in the 700 MHz bands by September 30, 2000, we delegate to the Wireless Telecommunications Bureau authority to suspend our payment deadlines in Sections 1.2107(b) and 1.2109(a) of the Commission's Rules⁵ and require that winning bidders on all licenses in the 30 megahertz spectrum block and the Guard Bands pay the full balance of their winning bids upon submission of their long-form applications pursuant to Section 1.2107(c) of our rules.⁶

II. BACKGROUND

3. The 746-806 MHz band has historically been used exclusively by television stations (Channels 60 through 69), and incumbent television broadcasters are permitted by statute to continue operations in this band until their markets are converted to digital television.⁷ The Balanced Budget Act of 1997 directed the Commission to reallocate 24 megahertz of this spectrum for public safety use and 36 megahertz of this spectrum for commercial use.⁸ The Balanced Budget Act of 1997 also directed the Commission to commence competitive bidding for the commercial use spectrum after January 1, 2001.⁹ In November 1999, however, Congress enacted a consolidated appropriations statute revising this instruction. The 1999 legislation accelerates the schedule for auction of the commercial spectrum bands, and requires that the

⁵ 47 C.F.R. §§ 1.2107(b), 1.2109(a).

⁶ 47 C.F.R. § 1.2107(c).

⁷ See 47 U.S.C. § 337(e). See *Advanced Television Systems and Their Impact Upon Existing Television Broadcast Service*, MM Docket No. 87-268, *Reconsideration of Fifth Report and Order*, 13 FCC Rcd 6860, 6887 (1998).

⁸ See Section 337(a) of the Communications Act, 47 U.S.C. § 337(a).

⁹ See Section 337(b)(2) of the Communications Act, 47 U.S.C. § 337(b)(2)(a).

proceeds from the auction of these bands be deposited in the U.S. Treasury by September 30, 2000.¹⁰

4. In the *700 MHz First Report and Order*, we provided for two license bands – one of 20 MHz and one of 10 MHz – that address the increasing demand for broadband wireless access capacity. The 20 megahertz segment consists of paired 10 megahertz blocks, and the 10 megahertz segment consists of paired 5 megahertz blocks.¹¹ These spectrum blocks can potentially be used for advanced wireless services, such as high-speed Internet access, and next generation broadband wireless services, as well as new broadcasting services that meet the applicable technical parameters. To protect public safety licensees in bands immediately adjacent to these 700 MHz bands, we also provided for two Guard Bands, one of 4 megahertz (two paired 2 megahertz bands) and one of 2 megahertz (two paired 1 megahertz bands).¹² We determined to license the Guard Bands to allow for effective and valued use of the spectrum, and stated that we would require users of these Guard Bands to minimize interference to public safety licensees through technical and operational measures to be determined in a subsequent Report and Order.¹³

5. In the weeks immediately preceding adoption of the *700 MHz First Report and Order*, the Commission received a large number of *ex parte* filings addressing the technical and operational standards to be applied to the Guard Bands. Parties advanced conflicting arguments on the specific technical, operational and licensing regulations that are necessary to adequately protect adjacent public safety operations.¹⁴ Moreover, a number of the more recent filings reflected new representations and analyses of these issues by both potential bidders and the public safety community. In order to supplement the record and provide all interested parties with an opportunity to address issues relating to the technical and operational standards the Commission should establish for the Guard Bands, the Wireless Telecommunications Bureau issued a *Public Notice*¹⁵ seeking comment on certain specific technical and

¹⁰ See Pub. Law 106-113, 113 Stat. 1501, Appendix E, Section 213. See also 145 Cong. Rec. at H12493-94, H12501 (Nov. 17, 1999), “Making consolidated appropriations for the fiscal year ending September 30, 2000, and for other purposes.” (“*Consolidated Appropriations*”).

¹¹ See *700 MHz First Report and Order* at paras. 30-32, 35-39.

¹² See *700 MHz First Report and Order* at paras. 33-34. The two 1 megahertz sub-bands are at 746 MHz and 776 MHz, and the two 2 megahertz sub-bands are at 762 MHz and 792 MHz. *Id.* at para. 34.

¹³ *Id.* at para. 34.

¹⁴ See, e.g., Motorola November 23, 1999 *Ex Parte* Filing; Motorola November 24, 1999 *Ex Parte* Filing; FreeSpace December 17, 1999 *Ex Parte* Filing; Motorola December 22, 1999 *Ex Parte* Filing; FreeSpace December 23, 1999 *Ex Parte* Filing; APCO December 28, 1999 *Ex Parte* Filing.

¹⁵ See “Public Comment Sought on Issues Related to Guard Bands in the 746-764 MHz and 776-794 MHz Spectrum Block,” *Public Notice*, DA 00-31 (rel. Jan. 7, 2000). Some of the issues on which the Bureau sought comment were: what out-of-band emission (OOBE) limits the Commission should apply to licensees operating in the guard bands to protect public safety; whether licensees operating in the guard bands should be required to comply with the Adjacent Channel Coupled Power (ACCP) OOBE limits that were adopted for 700 MHz public safety operations and implement frequency coordination procedures with the designated public safety coordinators; whether the Commission should restrict operation in the guard bands to those entities that would not use an architecture that employs an intense, cellular-like frequency re-use pattern or whether there should be different OOBE and/or frequency coordination rules applicable to such systems; to the extent no restrictions are placed on the nature of the system architecture of the licensee operating in the guard bands, what other limitations the Commission should place on licensees because of the important need to protect public safety. *Id.* See also “Deadline for Final Ex Parte and Other Presentations on Issues Related to Guard Bands in the 746-764

operational issues.¹⁶ The Report and Order we adopt here addresses the technical, operational, and licensing requirements for the Guard Bands.

III. SERVICE RULES

6. Many of the service rules we adopted in the *700 MHz First Report and Order* for the 30 megahertz spectrum block in the 746-764 and 776-794 MHz bands are such that we find no basis on which to establish a different rule for the remaining 6 megahertz of spectrum in those bands. Therefore, except for rules that we expressly address in this *Second Report and Order*, we adopt for the Guard Bands (746-747/776-777 MHz and 762-764/792-794 MHz), for the reasons stated in the *700 MHz First Report and Order*, the same technical, operational, and licensing rules that we adopted for the 747-762 MHz and 777-792 MHz bands. Accordingly, where applicable, we will amend our rules that currently reference the 747-762 MHz and 777-792 MHz bands to reference the Guard Bands as well.

A. Band Plan

1. Protecting Public Safety Operations

7. **Background.** Section 337(d)(4) states that the Commission “shall establish rules insuring that public safety services licensees using spectrum reallocated pursuant to subsection (a)(1) shall not be subject to harmful interference from television broadcast licensees.”¹⁷ The Conference Report pertaining to that section states that the Commission should ensure that public safety service licensees in the 746-806 MHz band “continue to operate free of interference from any new commercial licensees.”¹⁸

8. In the *700 MHz First Report and Order*, we concluded that licensees operating in the 747-762 MHz and 777-792 MHz bands would be required to provide out-of-band and spurious emission protection to services outside each licensee’s assigned spectrum by, at a minimum, attenuating power below the transmitter power (P) by at least $43 + 10 \log P$ dB for any emission on all frequencies outside the licensee’s authorized spectrum -- except for emissions that fall within the GPS band.¹⁹ To provide additional interference protection to operations in the public safety bands, we required an attenuation below transmitter power for base and fixed stations operating in the 747-762 MHz band and fixed stations operating in the 777-792 MHz band by at least $76 + 10 \log P$ dB per 6.25 kHz in the 764-776 MHz and 794-806 MHz public safety bands, and an attenuation below the transmitter power for mobile and portable stations operating in the 777-792 MHz band by at least $65 + 10 \log P$ dB per 6.25 kHz in the 764-776 MHz and 794-806 MHz public safety bands. In arriving at this decision, we were guided by Congress’s concern that 700 MHz public safety service licensees be able to operate free from harmful interference from new commercial licensees, and therefore adopted technical rules that we believed would provide adequate protection to public safety licensees operating in these bands.

MHz and 776-794 MHz Spectrum Block Extended to January 31, 2000,” *Public Notice*, DA 00-134 (rel. Jan. 27, 2000).

¹⁶ A list of the parties that filed pleadings in response to the January 7, 2000, *Public Notice*, and the abbreviations used to refer to such parties, is included in Appendix A. A list of the parties that filed pleadings in response to the *NPRM*, and the abbreviations used to refer to such parties, is included in Appendix B.

¹⁷ 47 U.S.C. § 337(d)(4).

¹⁸ H.R. Conf. Rep. No. 105-217, 105th Cong., 1st Sess., at 580 (1997) (“*Conference Report*”).

¹⁹ *700 MHz First Report and Order* at para. 103.

9. In the *700 MHz First Report and Order*, we deferred to this proceeding the establishment of the technical criteria for operation in the bands of commercial spectrum immediately adjacent to the 764-776 MHz and 794-806 MHz public safety bands – *i.e.*, the 746-747 MHz, 762-764 MHz, 776-777 MHz, and 792-794 MHz bands. We designated these bands as “Guard Bands,”²⁰ and, because of the close proximity of the Guard Bands to the public safety spectrum, stated our intent “to adopt more stringent interference protection standards”²¹ for these bands than we had established for the 747-762 MHz and 777-792 MHz bands (the “30 megahertz” bands). We simultaneously released a *Public Notice* seeking further comment on possible technical and operational criteria to achieve our goal of providing superior protection to public safety from the Guard Bands, including: the OOB limits that should apply to licensees operating in the Guard Bands; whether the Commission should restrict operation in the Guard Bands to those entities that would not use an architecture that employs an intense, cellular-like frequency re-use pattern; and, to the extent no restrictions are placed on the nature of the system architecture of the licensee operating in the guard bands, what other limitations should be placed on licensees because of the important need to protect public safety.²² We received comments from 22 parties in response to the *Public Notice*.²³

10. Wireless equipment manufacturers, such as Com-Net Ericsson, EF Johnson, and Dataradio, contend that one way to protect public safety is to require that equipment operating in the Guard Bands adhere to the OOB criteria recently adopted for the 700 MHz public safety band.²⁴ Equipment manufacturers as well as various members of the public safety community, such as APCO, AASHTO, and IACP, assert that Guard Band licensees should be required to frequency coordinate with public safety frequency coordinators as a means of ensuring appropriate protection to public safety.²⁵ Certain of these

²⁰ The 746-747 MHz band is not immediately adjacent to a public safety band. However, because it is paired with the 776-777 MHz band, which *is* one of the bands situated immediately adjacent to a public safety band, we include the 746-747 MHz band as one of the four Guard Bands to be addressed in this proceeding. *See 700 MHz First Report and Order* at para. 34.

²¹ *700 MHz First Report and Order* at para. 3.

²² *Public Notice* at 2.

²³ *See* Appendix A.

²⁴ Com-Net Ericsson believes that we should adopt the same OOB requirement to protect public safety licensees from Guard Band licensees as was adopted to protect public safety licensees from *other* public safety licensees. Com-Net Ericsson *PN* Comments at 4. Dataradio and EF Johnson point out that adopting the same OOB requirement for Guard Band equipment that was adopted for public safety equipment could also have the benefit of reducing the costs of public safety equipment due to economies of scale that would result from both sets of equipment being required to meet the same technical standards. Dataradio *PN* Comments at 2; EF Johnson *PN* Comments at 1. *See also* Southern *PN* Comments at 4-5.

²⁵ AASHTO, EF Johnson, APCO and Dataradio, in particular, cite, as support for their position, the long history of successful coordination among the private radio services, including the public safety services. AASHTO *PN* Comments at 4; EF Johnson *PN* Comments at 1; APCO *PN* Comments at 3; Dataradio *PN* Comments at 2. IACP states that “there must be strong frequency coordination rules to protect the interests of public safety in the guard bands.” IACP January 27, 2000 *Ex Parte PN* Filing at 2. ITA advocates implementation of existing frequency coordination procedures developed by Commission-certified frequency advisory committees for the Guard Bands. ITA January 31, 2000 *Ex Parte PN* Filing at 11. *See also* LMCC *PN* Comments at 3; IMSA January 31, 2000 *Ex Parte PN* Filing at 5; PCIA *PN* Comments at 2-3 (advocating use of the frequency coordination system presently used for many Part 90 frequencies). MCSA contends that frequency coordination is particularly important because many Public Safety systems will be deployed after the Guard Band systems have commenced operation. MCSA January 27, 2000 *Ex Parte PN* Filing at 2. *But see* Southern *PN*

commenters, as well as others, argue that protection of public safety can be achieved by imposing both of these requirements.²⁶

11. Commenters disagree on the issue of whether we should restrict operation in the Guard Bands to those entities that would not use an architecture that employs an intense, cellular-like frequency re-use pattern. Certain service providers argue that we should not prohibit any particular type of system architecture in the Guard Bands.²⁷ For instance, FreeSpace argues that adoption of the particular technical and operational rules it proposes for the Guard Bands would meet our objective to provide more stringent interference protection standards for the Guard Bands and would obviate the need to impose restrictions on the type of system architecture used in the Guard Bands.²⁸

12. On the other hand, several commenters, including public safety groups, believe that we should not allow cellular architectures, even if licensees using that architecture employ frequency coordination procedures. APCO notes that cellular architecture greatly increases the potential for interference to public safety operations.²⁹ LMCC and IMSA also strongly oppose the use of cellular architectures by commercial providers in the Guard Bands.³⁰ The IACP also opposes the use of cellular and cellular-like architectures in the Guard Bands, citing recent instances of interference caused to police radio systems from cellular-type systems.³¹

13. Motorola argues that interference situations among systems that are of similar architecture to public safety systems -- *e.g.*, high-powered, two-way communications systems -- can be addressed through frequency and operational coordination procedures, but that systems with cellular architectures create a high density of potential interference sources within public safety service areas, which would compromise public safety communications in those areas. Motorola contends that such a large number of potential

Comments at 5-6 (arguing that if Guard Band licensees comply with our ACCP OOB limits, they need not be subject to frequency coordination; and expressing concern that the frequency coordination process would delay the provision of services to the public).

²⁶ Motorola *PN* Comments at A-1; APCO *PN* Comments at 3; Dataradio *PN* Comments at 2; Florida *PN* Comments at 1; EF Johnson *PN* Comments at 1; Com-Net Ericsson *PN* Comments at 5.

²⁷ See Southern *PN* Comments at 6-7; SBC *PN* Comments at 2; MSTV *PN* Comments at 3. See also Microsoft *Ex Parte PN* filing of January 27, 2000 at 4 (emphasizing the Commission's responsibility under Section 309(j)(3)(A) of the Communications Act to promote "the development and rapid deployment of new technologies").

²⁸ Specifically, FreeSpace proposes *inter alia* that Guard Band licensees be required to meet an $87 + 10 \log P$ OOB limit for emissions into the 764-776 MHz public safety band, proposes a series of unique frequency coordination procedures with which Guard Band licensees would have to comply, and proposes the use of "active power control mechanisms" to reduce the probability of interference. FreeSpace *PN* Comments at 8-11.

²⁹ APCO *PN* Comments at 3-4. APCO indicates that, historically, successful frequency coordination between private wireless and public safety licensees is due in large part to their use of similar system architectures and equipment.

³⁰ LMCC *PN* Comments at 3; IMSA *PN* Comments at 4.

³¹ IACP January 27, 2000 *Ex Parte PN* Filing at 1; E F Johnson *PN* Comments at 2.

interference sources cannot be effectively managed through frequency and operational coordination.³² Similarly, Com-Net Ericsson concludes that no set of OOB limits and/or frequency coordination procedures could address the interference that would be caused by cellular-like systems.³³

14. **Discussion.** Based on the record before us, we adopt a set of measures that together will provide the strong degree of protection to public safety we seek from Guard Band operations. These measures constitute a package of interference protections modeled on the interference standards within the 700 MHz public safety spectrum. We require entities operating in the Guard Bands to adhere to the same OOB criteria that we adopted for 700 MHz public safety users and to coordinate their frequency use with public safety frequency coordinators. We conclude that the ACCP OOB limits, in combination with the requirement of frequency coordination, are necessary to appropriately provide a greater degree of protection to public safety from interference than the OOB limits we adopted for the 30 megahertz band. We also restrict operation in the Guard Bands to entities that do not use a cellular system architecture.³⁴ The combination of the similar deployment scenarios and the use of the ACCP OOB and frequency coordination will create an operating environment under which public safety and neighboring Guard Bands users will be able to co-exist in these adjoining bands as well and as effectively as public safety licensees will be able to co-exist among themselves within the public safety bands.³⁵

15. We reiterate our conclusion from the *First Report and Order* that, because of the Guard Bands' proximity to the public safety bands, we must adopt more stringent interference protection requirements for the Guard Bands than we adopted for the 30 megahertz bands. Significant technical reasons require us to treat Guard Band users differently and to impose more stringent restrictions on their operations. A public safety receiver is susceptible to interference not only from out-of-band energy that falls *within* its passband,³⁶ but also from energy from unwanted emissions located *outside* its passband – energy that can cause interference to the operation of the receiver. This result occurs because, as FreeSpace correctly notes, no receiver filter can perfectly pass a desired signal while also perfectly rejecting unwanted signals.³⁷ Transmissions from any number of sources, both originating within the

³² Motorola *PN* Comments at 4-6 and Attachment to Appendix A. See also Dataradio *PN* Comments at 1-2; AASHTO *PN* Comments at 5; Kenwood *Ex Parte PN* filing of January 27, 2000 at 2; Milwaukee *Ex Parte PN* filing of January 27, 2000 *PN* Comments at 1; MCSA *Ex Parte PN* filing of January 27, 2000 at 2; ITA *Ex Parte PN* filing of January 31, 2000 at 7-8.

³³ Com-Net Ericsson *PN* Comments at 5.

³⁴ Similar to the definition of a "Cellular System" found in Section 22.99 of our Rules, 47 CFR S 22.99, we define 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.

³⁵ Motorola *PN* Comments at 2-4 and A-1.

³⁶ The passband is the frequency band within which signals will be processed with effectively no attenuation in the receiver. It correlates roughly with the operating bandwidth of the receiver. We limit the "out-of-band" emissions of unwanted transmissions in order to constrain the energy of such transmissions entering the receiver passband.

³⁷ As FreeSpace notes, the existence of unwanted energy beyond the passband creates two types of problems, front-end overload and desensitization. Front-end overload occurs when unwanted emissions detected by a receiver (*i.e.*, emissions not in the receiver passband) produce unwanted mixing products in the receiver's mixer or RF amplifier. These products can result in increased noise level and distortion, which interfere with the proper detection of the desired signal. Desensitization occurs when the unwanted emissions enter a receiver's

Guard Bands and within the 30 megahertz bands can place energy into a public safety receiver and cause these types of interference. Most importantly, however, due to the design of receiver filters, which more strongly reject signals the farther they are from the passband, the existence and severity of this interference increases when the interfering source is spectrally closer to the receiver's passband.³⁸ For a transmitter operating in a Guard Band, which is immediately adjacent to the public safety band, emissions would be relatively unattenuated, and would fall squarely within the spectrum immediately beyond the public safety receiver's passband. For a transmitter operating in the 30 megahertz spectrum, however, emissions must be attenuated to the $43 + 10 \log P$ dB level before entering the Guard Band spectrum and then attenuated further, to a 76 or $65 + 10 \log P$ dB level, before entering a public safety band. Thus, if similar transmissions (*e.g.*, transmissions with similar powers and antenna heights) originate in the Guard Band and in the 30 megahertz spectrum, considerably more interference would be caused by transmissions originating in the Guard Bands.³⁹ For this reason, we conclude that we should impose more stringent operational restrictions on systems operating in the Guard Bands than on systems operating in the 30 megahertz bands.

16. To address the special interference problems resulting from the spectral proximity between Guard Band and public safety systems, we implement a package of interference protections modeled on the interference standards within the 700 MHz public safety spectrum. When public safety communications is at issue, we want to minimize the likelihood of interference, and whenever possible, to employ "tried and true" methods and procedures that will have the greatest likelihood of success. We have thus determined that the best way to protect public safety from operations in the Guard Bands is, first, to adopt the two-pronged approach of requiring Guard Band equipment to meet the ACCP OOB criteria and requiring Guard Band users to comply with frequency coordination procedures.

17. We are therefore requiring that entities operating in the Guard Band adhere to the same interference protection regime that governs 700 MHz public safety users. Thus, equipment operating in the Guard Bands will have to adhere to the same ACCP OOB criteria that we adopted for 700 MHz public safety users. In deciding that equipment operating in the Guard Bands should meet these OOB criteria, we agree with commenters that adopting the same OOB limits for equipment in both the Guard Bands and the public safety bands will enable users of Guard Band equipment to provide the same effective technical interference protection to public safety users as users of public safety equipment provide to themselves.⁴⁰

mixer and cause AGC circuitry to attenuate both unwanted and desired signals. As a result, the desired signal reproduced in the IF stage may be attenuated to a level where it cannot be adequately detected.

³⁸ As FreeSpace notes, these forms of interference "become much more pronounced as the frequency of the interfering source approaches that of the victimized receiver." FreeSpace *PN* Comments, Appendix A at 3.

³⁹ FreeSpace argues that to address these types of interference (*i.e.*, front-end overload and desensitization), the operating power of Guard Band system should be "restricted" compared to the power permitted for systems in the 30 megahertz bands. While a Guard Band transmitter operating at a lower power would, in general, cause less interference than a Guard Band transmitter operating at a higher power, the effects and extent of these forms of interference are dependent on various, additional factors – such as the spectral and spatial proximity between the transmitter and receiver, and the particular technical characteristics of the receiver. Thus, we cannot conclude that the adoption of any particular power restriction for Guard Band systems, including the power limit proposed by FreeSpace, would necessarily or adequately address these types of interference.

⁴⁰ As some commenters point out, an additional benefit of adopting the ACCP OOB requirement for Guard Band equipment could be that the costs of public safety equipment would be reduced as a result of both Guard Band and public safety equipment being required to meet the same technical standards.

As we decided in our *700 MHz Public Safety Order*, requiring equipment operating in the 700 MHz public safety band to meet the ACCP OOB criteria provides the appropriate method for ensuring adjacent channel interference protection to 700 MHz public safety equipment.⁴¹ By adopting this same criteria for Guard Band equipment, we provide the same, effective technical interference protection to public safety communications from such equipment.

18. To ensure that public safety users attain the same level of interference protection from Guard Band users as they attain from other public safety users, we also are requiring that Guard Band users employ frequency coordination procedures in cooperation with the 700 MHz public safety coordinators. Through frequency coordination a Guard Band licensee and a public safety licensee can select operating frequencies so that such frequencies are as far from one another as possible. For example, if a Guard Band user seeks to operate on spectrum near the public safety band in a particular geographic area, a public safety licensee in that area could operate on frequencies somewhat removed from that spectrum, and vice-versa.⁴² The frequency coordination process then becomes one of advance cooperation between parties in an effort to locate base stations and select frequencies so as to minimize the likelihood of interference once systems become operational.⁴³ We believe that it is a procedure that is an essential requirement for Guard Band users because of the fact that such users are operating on spectrum immediately adjacent to 700 MHz public safety licensees.

19. We also conclude that, in order to provide the interference protection to public safety that we require from Guard Band operations, we must prohibit cellular system architectures in the Guard Bands. The frequency coordination we require of entities operating in the Guard Bands can be accomplished without great difficulty when the Guard Band users' systems consist, as do public safety systems, of base stations operating at a single site that provides coverage to a large geographic area. The process would be fundamentally different and much more difficult, however, if a Guard Band user employed a cellular architecture. As Motorola points out, such systems, by design, produce large numbers of base stations within a relatively small geographic area – each with the capability of causing interference to the reception of signals to public safety mobiles and portables.⁴⁴ Although coordinating frequencies for each and every one of these base stations with the various public safety systems operating in the area would not be impossible as a theoretical matter, as a practical matter it would be a complex, uncertain, and resource-intensive task for both commercial and public safety users. As discussed below, the public safety community is highly skeptical that such coordination would be successful, and we share this concern. The potential for interference to public safety receivers if such coordination were not successful is a risk the public safety community views as a significant threat, and is a burden we are unwilling to impose on them. Thus, we conclude that we will not permit entities that employ a cellular system architecture to operate in the Guard Bands.

20. This risk of interference to public safety from systems using a cellular architecture appears

⁴¹ See *700 MHz Public Safety Order* at para. 138.

⁴² We disagree with Southern's assertion that the frequency coordination process will delay the implementation of services to the public. See Southern *PN* Comments at 5-6. No other commenter concurs with Southern's assertion or has provided evidence suggesting that this could or would occur. Even assuming frequency coordination would lead to limited delays, we find that the importance of frequency coordination to protecting public safety outweighs those delays.

⁴³ See APCO *PN* Comments at 2-3.

⁴⁴ Motorola *PN* Comments at 4-6.

particularly great for systems using very small cells. FreeSpace, for example, seeks spectrum in the 700 MHz band for the purpose of implementing a system that will provide fixed wireless Internet services to the home. It intends to construct a system that will consist of very small cells, each of which will contain a single “base station” situated at a residence, and transmitting data at DSL speeds, to and from other nearby homes. We conclude that locating such a system in spectrum adjacent to public safety licensees would be problematic for several reasons. First, from a practical standpoint, the ability to coordinate frequencies with public safety licensees on large numbers of base stations to remove the risk of interference will be extremely difficult, if possible at all. Second, FreeSpace’s base stations would be located in residential communities, where there is the ever-present possibility that public safety officers (*e.g.*, police and fire personnel) may need to communicate on their mobile and portable radios in a variety of life-threatening situations.⁴⁵ Finally, given FreeSpace’s description of its service, its base stations, in peak times, likely would be operating virtually continuously, increasing the potential for interference to public safety mobile and portables at any given point in time.⁴⁶

21. We are not persuaded by FreeSpace’s arguments that a cellular architecture prohibition is unnecessary. For example, it proposes to meet an OOB limit of $87 + 10 \log P$ for emissions from fixed stations into the 764-776 MHz public safety bands, which is more stringent than the limit we adopted for systems operating in the 30 megahertz bands.⁴⁷ In addition, FreeSpace has proposed a series of extensive frequency coordination rules that would, *inter alia*, require Guard Band users to “develop and maintain a centralized database identifying the ‘real time’ location (*e.g.*, via GPS) and operating frequencies of all base stations,” with Public Safety coordinators having access to this database; and require Guard Band users to “maintain centralized, dynamic control over the operation and frequency use of each of its base stations.”⁴⁸ For reasons explained more fully below, we are not persuaded that these measures can be safely relied upon to protect public safety operations from interference.

22. We first disagree with certain of FreeSpace’s technical arguments and assumptions supporting its contention that a system operating under its proposed rules would not cause significant interference to public safety licensees. For instance, FreeSpace calculates that compliance with its proposed $87 + 10 \log P$ OOB limit for fixed stations operating in Guard Band spectrum adjacent to the 764-776 MHz public safety band would result in zones of only 12 meters in radius around such stations where interference would be caused to public safety mobile and portable receivers.⁴⁹ We believe that FreeSpace has underestimated the interference risk to public safety. For example, FreeSpace arrives at the 12-meter

⁴⁵ The base stations of cellular and PCS systems are much less likely to be situated directly within residential communities.

⁴⁶ Such interference could occur from base stations operating in the 762-764 MHz band, and could cause interference to the reception of public safety base station transmissions in the adjoining 764-776 MHz band.

⁴⁷ FreeSpace also proposes to operate at a relatively low power level as a means of lessening the likelihood of interference resulting from desensitization and front-end overload of public safety receivers. As indicated in footnote 40 above, however, we cannot conclude that this measure would adequately address these forms of potential interference to public safety receivers.

⁴⁸ FreeSpace *PN* Comments at 9-10.

⁴⁹ The 12-meter zone of interference calculated by FreeSpace represents a “weighted average” of interference zones, ranging from the smaller interference zones that would be situated near a public safety base station to the larger interference zones that would be situated at the edge of a public safety service area. FreeSpace January 25, 2000 *Ex Parte PN* Filing at 17-18.

distance by assuming that its signals will be attenuated by “clutter.” We find that this is an inappropriate assumption given that the FreeSpace interfering signal will generally be “line-of-sight” – *i.e.*, only a short distance to a nearby public safety mobile or portable receiver. FreeSpace incorrectly assumes the same clutter factor as for other systems that transmit signals over a much greater distance, and this enables FreeSpace to derive the relatively small 12-meter average interference zone for its system. In addition, the prospect of creating potentially hundreds of such interference zones, even if they are as small as 12 meters in radius, within the area likely to be served by a public safety base station gives us considerable cause for concern. Each potential source of interference, especially if, as FreeSpace anticipates, such sources are situated in homes in residential areas, increases our concern, and leads us to the conclusion that a system with the type of architecture proposed by FreeSpace should not be permitted in the Guard Bands.⁵⁰ Moreover, where public safety is implicated, we also believe we must take account of “worst case” interference scenarios -- *i.e.*, where public safety personnel are attempting to communicate while situated at the edge of their system’s service area.⁵¹

23. We also conclude that FreeSpace’s proposed enhanced frequency coordination procedures are not sufficient to overcome the concerns that we and the public safety community share about possible interference from its system. As an initial matter, we remain uncertain as to whether FreeSpace’s various proposals – *e.g.*, use of active power control mechanisms, the maintenance of a centralized database of operating frequencies, the capability for dynamic control frequency assignments, *etc.* – would necessarily prevent occurrences of interference to public safety communications (*i.e.*, correcting an interference problem after the fact is unacceptable when that problem disrupts communications associated with critical safety-of-life situations). We are also reluctant to adopt procedures that would be tailored to a particular entity’s technology or stated capability (no other party has supported these requirements or has indicated an ability to meet these requirements). Finally, the public safety community has expressed skepticism as to whether FreeSpace’s proposed procedures could in fact be developed and implemented. APCO expresses concern about whether “complex” frequency coordination procedures could actually be accomplished “from technical, operational, and economic perspectives,” and further states that while FreeSpace’s proposal “has certain theoretical attractions, [APCO has] grave concerns as to whether it would work in reality.”⁵² We concur with the concerns raised by the public safety community about the ability of FreeSpace to implement its frequency coordination procedures. In light of the potential impacts on public safety’s ability to fulfill its public interest responsibilities, we therefore conclude that we should adopt a course that minimizes the risk of interference from dissimilar systems in the Guard Bands and, accordingly, prohibit the use of those bands by entities who would employ a cellular system architecture.

24. Our decision here to adopt technical restrictions on cellular architectures in the Guard Bands is grounded in concerns regarding the potential for harmful interference to users in the adjacent public safety spectrum. We nonetheless note that systems using cellular architectures may participate in the 10 and 20

⁵⁰ Although we are concerned about interference to the operations of both vehicular and portable public safety units, one scenario that would be particularly troubling in the context of a FreeSpace architecture would be one where a public safety official situated in a home might be required to use a handset to call for “back-up.” Under this scenario, potential interference to the handset from a FreeSpace base station located on a nearby rooftop would be of great cause for concern.

⁵¹ The “worst-case” interference zone calculated by FreeSpace for its system -- *i.e.*, at what FreeSpace considers to be the “outer-most boundary” of a public safety coverage area -- is 18 meters in radius. *See* FreeSpace January 25, 2000 *Ex Parte* PN Filing at 21-22.

⁵² APCO also states that “when potential interference to public safety communications is at issue, the Commission must have certainty, not broad proposals for untested technology.” APCO PN Comments at 6.

MHz band auction. In addition, the Commission recently announced an auction of broadband PCS licenses that would make additional spectrum available for systems using cellular architectures.⁵³ The Commission also currently expects to begin an auction of narrowband PCS licenses during the first quarter of 2001.⁵⁴ Narrowband PCS spectrum has similar propagation characteristics and may be suitable for many of the applications considered in the 700 MHz band.

2. Licenses for the Guard Bands

25. **Background.** In the *NPRM*, we sought comment on the extent to which, consistent with the statute, spectrum in the 746-764 MHz and 776-794 MHz bands should be available for private mobile and private fixed radio services.⁵⁵ Specifically, we noted that the Commission had sought comment in another rulemaking proceeding on whether to establish a new class of licensee called a “Band Manager,”⁵⁶ and requested comment in this proceeding on whether the 746-764 and 776-794 MHz bands should be licensed to Band Managers. As outlined in the *Balanced Budget Act Notice*, the Band Manager would apply for a radio license, subject to competitive bidding, and would make portions of its licensed spectrum available to eligible users through private contractual arrangements. The *NPRM* sought comment on a range of issues raised in the *Balanced Budget Act Notice* regarding Band Manager licensing as applied to the 746-764 MHz and 776-794 MHz bands.⁵⁷ Some of those issues were: whether Band Manager licensing is consistent with the Commission’s spectrum management obligations under the Communications Act; whether eligibility and use restrictions should be established for the Band Manager license; whether any specific enforcement measures should apply to Band Managers; whether to adopt other measures that might promote competition among Band Managers; and whether to adopt rules to ensure fair and nondiscriminatory access by prospective end users to Band Manager spectrum.⁵⁸ As proposed in the *Balanced Budget Act Notice*, a Band Manager would be eligible to apply for a radio license and enter into contractual agreements to make portions of its spectrum available to eligible end users for a length of time not to exceed the expiration of the initial license term. Therefore, the Band Manager would be a Commission licensee and would be responsible for its spectrum end users’ compliance with the Commission’s rules.

26. **Discussion.** We will license a new class of commercial user in the Guard Bands, called a

⁵³ See “Auction of C and F Block Broadband PCS Licenses, Notice of Auction Scheduled for July 26, 2000,” *Public Notice*, DA 00-49 (rel. January 12, 2000).

⁵⁴ A Further Notice of Proposed Rulemaking addressing various issues regarding narrowband PCS service and competitive bidding rules is pending. See Amendment of the Commission’s Rules to Establish New Personal Communications Services, Narrowband PCS, GEN Docket No. 90-314, ET Docket No. 92-100, Implementation of Section 309(j) of the Communications Act—Competitive Bidding, Narrowband PCS, PP Docket No. 93-253, *Report and Order and Further Notice of Proposed Rulemaking*, 12 FCC Rcd 12972 (1997).

⁵⁵ *NPRM* at para. 15.

⁵⁶ Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, WT Docket No. 99-87, *Notice of Proposed Rule Making*, FCC 99-52, 14 FCC Rcd 5206, 5247-49 paras. 88-95 (1999) (“*Balanced Budget Act Notice*”).

⁵⁷ *NPRM* at para. 15.

⁵⁸ See *NPRM* at para. 15; *Balanced Budget Act Notice* at paras. 90-95.

Guard Band Manager.⁵⁹ This new approach will serve the paramount need to protect public safety operations on Channels 63, 64, 68, and 69 from harmful interference and to promote the efficient use of this spectrum. This Guard Band Manager licensee will have many of the attributes discussed in the *NPRM* and the *Balanced Budget Act Notice*, but, for reasons developed in the record and described below, it will also operate somewhat differently.

27. We will assign the Guard Band spectrum to Guard Band Managers using competitive bidding, as required by Section 337(a)(2) of the Communications Act.⁶⁰ The Guard Band Manager will be a new class of commercial licensee engaged solely in the business of leasing⁶¹ for value spectrum to third parties on a for-profit basis. The Guard Band Manager may subdivide its spectrum in any manner it chooses and make it available to system operators, or directly to end users for fixed or mobile communications, consistent with the frequency coordination and interference rules specified for these bands. Guard Band Managers effectively will serve as “demand aggregators” that make spectrum available on a commercial basis to facilitate all types of spectrum use that are consistent with the technical restrictions we adopt for these bands.

⁵⁹ See 47 U.S.C. § 303(a)-(g); 47 U.S.C. § 309(j)(3) (authorizing the Commission to identify classes of licenses and permits to be issued by competitive bidding). Section 303 of the Communications Act sets forth the Commission’s general powers relating to radio frequencies, and states in pertinent part:

Except as otherwise provided in this chapter, the Commission from time to time, as public convenience, interest, or necessity requires, shall--

- (a) Classify radio stations;
- (b) Prescribe the nature of the service to be rendered by each class of licensed stations and each station within any class;
- (c) Assign bands of frequencies to the various classes of stations, and assign frequencies for each individual station and determine the power which each station shall use and the time during which it may operate;
- (d) Determine the location of classes of stations or individual stations;
- (e) Regulate the kind of apparatus to be used with respect to its external effects and the purity and sharpness of the emissions from each station and from the apparatus therein;
- (f) Make such regulations not inconsistent with law as it may deem necessary to prevent interference between stations and to carry out the provisions of this chapter: *Provided, however*, that changes in the frequencies, authorized power, or in the times of operation of any station, shall not be made without the consent of the station licensee unless the Commission shall determine that such changes will promote public convenience or interest or will serve public necessity, or the provisions of this chapter will be more fully complied with;
- (g) Study 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; . . .

⁶⁰ Intek suggests that we license this band to private wireless users without using competitive bidding. Intek Global Comments at 6. However, the Balanced Budget Act of 1997 requires that the Commission use competitive bidding to assign licenses in the 36 MHz of spectrum within the 746-806 MHz band. See 47 U.S.C. § 337(a)(2), as added by § 3004 of the Balanced Budget Act of 1997. Therefore, we will assign Guard Band Manager licenses using competitive bidding, as required by Section 337(a)(2).

⁶¹ Our references in this Report and Order to the Guard Band Manager’s “lease” of spectrum are not intended to preclude Guard Band Managers from entering into other types of written commercial agreements with their spectrum users, provided that such agreements are in compliance with our rules on the proper scope of activities of Guard Band Managers. See, e.g., *infra* para. 54 (Because Guard Band Manager “will act only as a spectrum broker and not as a wireless service provider, it will not be a carrier of any type.”); see also Appendix C, § 27.4.

28. The Guard Band Manager will be responsible for distributing the licensed spectrum among its customers and will be permitted to apportion spectrum based on both geographic area and frequency. Such spectrum apportionment will differ from traditional geographic partitioning and spectrum disaggregation because it will not involve the transfer or assignment of the Guard Band Manager's license to other parties.⁶² The Guard Band Manager will coordinate the use of frequencies among its customers to minimize interference. It will also be responsible for resolving interference conflicts among its customers and, in the first instance, among its customers and neighboring users of spectrum licensed to other Guard Band Managers or other licensees.

29. As a "spectrum broker," the Guard Band Manager licensee will have an incentive to maximize efficient use of the spectrum, consistent with the technical limitations in this band. Compared with traditional licensing techniques involving site-by-site technical rules administered by the Commission and the frequency coordinating advisory committees, a Guard Band Manager licensee will have more flexibility to "tailor" the use of this spectrum (e.g., for short-term uses or specific geographic needs) in a manner that maximizes efficiency for the benefit of those able to make use of this spectrum under the designated technical restrictions. We believe implementing such new licensing approaches in appropriate circumstances will promote the development and rapid deployment of new technologies, products, and services for the benefit of the public, recovery for the public of a portion of the value of the spectrum, and efficient and intensive use of the spectrum.⁶³

30. *Advantages of Guard Band Manager Licenses.* Our principal reason for licensing Guard Band spectrum to Guard Band Managers is that this is the most effective and efficient way to manage this spectrum while protecting public safety operations in adjacent bands. Guard Band Managers will be required to adhere to strict frequency coordination and interference rules, and control use of the spectrum so as to facilitate protection for public safety. We believe that Guard Band Manager licensing for these bands represents an innovative spectrum management approach that should enable parties to more readily acquire spectrum for varied uses, while streamlining the Commission's spectrum management responsibilities.⁶⁴ We also believe there is a significant benefit to having a single entity in a service area that is responsible for coordinating the selection of Guard Band frequencies to be used and the operating parameters of the sites to be constructed. The Guard Band Manager license will carry with it important responsibilities, paramount among them the obligation to control use of the Guard Band spectrum to ensure that operations on these frequencies do not interfere with public safety.

31. We conclude that the Guard Band Manager license will have several other advantages as well. The Guard Band Manager license will provide a mechanism for market-based transactions in wireless capacity at a time when wireline capacity is being freely traded as a commodity in the marketplace. On the wireline side, spot secondary markets have emerged for the purchase, sale, and lease of wholesale telecommunications carrying capacity.⁶⁵ On the wireless side, implementation of the Band Manager

⁶² See also *infra* paragraphs 82 - 85, in which we conclude that Guard Band Managers will also be permitted to partition their service areas and disaggregate their spectrum to other eligible Guard Band Managers in accordance with our service rules.

⁶³ See 47 U.S.C. § 309(j)(3).

⁶⁴ See Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, *Policy Statement*, FCC 99-354, at 4, para. 12 (rel. November 22, 1999)

⁶⁵ See, e.g., David Ward, *ISP Conference Focuses on Life Beyond Web Access*, Communications Daily, October 28, 1999; Stephen Lawson, *Bandwidth Broker Opens for Business*, Infoworld, October 18, 1999.

approach to licensing is potentially an important step in the direction of providing spectrum users with more flexibility to obtain access to the amount of spectrum, in terms of quantity, length of time, and geographic area, that best suits their needs.⁶⁶ We believe that, consistent with our spectrum management obligations, enabling a “free market” in spectrum to develop could have significant public interest benefits in ensuring the limited spectrum resource is used efficiently, and the Guard Band Manager approach should help us advance that goal. The Commission's current policy of auctioning expansive blocks of spectrum in flexible allocations generally well serves the public by permitting a robust marketplace to determine which services will be provided to the public. Many service providers have argued, however, that the process of auctioning spectrum in large regional blocks does not permit the marketplace to realize the efficiencies inherent in site-by-site licensing, and otherwise prevents smaller, more regional service providers and other users of spectrum from competing in the marketplace. Auctioning spectrum to guard band managers should enable parties to take advantage of the efficiencies of site-by-site licensing, more readily acquire spectrum for varied uses, and streamline the Commission's spectrum management responsibilities.

32. Because a Guard Band Manager will purchase its license and derive revenues from leasing its spectrum to customers, market forces will provide incentives for efficient spectrum use that are not present in non-market-based approaches to licensing.⁶⁷ The use of Guard Band Managers will also enable end users to acquire spectrum that can meet unique geographic requirements. For example, end users such as railroads or pipelines will be able to contract with a Guard Band Manager to access the same frequency across a long, but narrow service area and contract with multiple Guard Band Managers to achieve the same result across several geographic areas. The Guard Band Manager license will also enable small businesses to acquire spectrum in amounts, and for periods of time, that better suit their unique characteristics and specialized communications needs.⁶⁸ Finally, licensing of Guard Band Managers will streamline the day-to-day management of these bands. Many spectrum-related functions now carried out by the Commission in other bands will be left to the Guard Band Manager in this band: subdivision of spectrum blocks and geographic areas; coordination of frequencies among users; selection of channels; resolving interference conflicts; ensuring compliance with Commission rules.

33. *Guard Band Manager Licensee Coordination Requirements.* Each Guard Band Manager will be granted a license under which it will allow others to construct and operate stations at any available site within the licensed area and on any channel for which the Guard Band Manager is licensed. The only

⁶⁶ See William E. Kennard, *A New FCC for the 21st Century* 20 (August 1999) (citing as a key policy initiative, the exploration of innovative assignment mechanisms, such as Band Managers, that promote efficiency through market forces and enable users to easily aggregate and disaggregate spectrum for varied uses); Gregory L. Rosston & Jeffrey S. Steinberg, *Using Market-Based Spectrum Policy to Promote the Public Interest*, 50 Fed. Comm. L.J. 87, 99-101 (1997).

⁶⁷ See Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, *Policy Statement*, FCC 99-354, at 11-12, para. 24 (rel. November 22, 1999).

⁶⁸ Band Managers can make spectrum available on a more timely basis to private users that may not be able to wait during the time frame required to obtain from the Commission authorizations for frequencies needed to conduct their business. See *Balanced Budget Act Notice* at paras. 80, 92; S&P Communications *Ex Parte* Filing at 2. Because the Guard Band Manager will be able to make spectrum available for time periods of shorter duration than its own license term, licensing of Guard Band Managers will facilitate access to spectrum by private users that may need or only be able to afford spectrum for shorter periods of time.

exception to this blanket license approach is for stations that require individual Commission review.⁶⁹ In cases where individual Commission review is required, the Guard Band Manager must file a separate application and obtain appropriate approvals or authorizations.⁷⁰ Guard Band Managers may allow third-party system operators or end users to modify stations (i.e., delete, move, change operating parameters) that are covered under a Guard Band Manager's blanket license without prior Commission approval. This blanket licensing approach increases flexibility, reduces administrative burdens, and is consistent with how we license systems in other services where geographic area licensing is employed.⁷¹ In all instances, however, a primary responsibility of the Guard Band Manager will be to coordinate carefully operations and modifications of systems in the Guard Bands to ensure non-interference with public safety.

34. Specifically, to minimize the potential for interference to public safety operations in the adjacent 700 MHz bands, as well as adjacent channel and co-channel operations in adjacent geographic areas, we adopt coordination requirements. We believe coordination requirements also will encourage and facilitate the cooperation between Guard Band Managers and the public safety community that is so important to the overall band plan adopted.⁷² Under our coordination approach, Guard Band Managers must notify Commission-recognized public safety frequency coordinators in the 700 MHz public safety band⁷³ and adjacent-area Guard Band Managers⁷⁴ of the technical parameters of any site constructed in the Guard Band Manager's license area. This notification requirement applies to the coordination of both new stations and station modifications. At a minimum, each notification must include frequency or frequencies coordinated, antenna height, antenna location, type of emission, effective radiated power, a description of the service area, date of coordination and user name or, in the alternative, a description of the type of operation.

35. Such notifications must be made within one business day after a Guard Band Manager has coordinated the station. To allow the public safety community and other Guard Band Managers time to evaluate the coordinations, entities coordinated by a Guard Band Manager must wait at least ten business days after notification until they can begin operating under the Guard Band Manager's license. We believe

⁶⁹ Guard Band Managers need to refer to the Commission those individual stations: (1) that require the submission of an Environmental Assessment under 47 C.F.R. § 1.1307; (2) that require international coordination; or (3) that would affect the radio frequency quiet zones described in 47 C.F.R. § 90.177. In addition, any station antenna structure that requires notification to the Federal Aviation Administration (FAA) has to be registered with the Commission prior to construction. *See* 47 C.F.R. Part 17. It is the Guard Band Manager's responsibility to determine whether an individual station referral is needed.

⁷⁰ The license term of each individual station license will be tied to the license term of the Guard Band Manager's blanket license.

⁷¹ *See, e.g., 800 MHz First Report and Order*, 11 FCC Rcd at 1498; 47 C.F.R. § 27.11 (Wireless Communications Service); 47 C.F.R. § 24.11 (Personal Communications Service).

⁷² *See, e.g., Motorola September 15, 1999 Ex Parte Filing; Motorola November 11, 1999 Ex Parte Filing; Motorola December 2, 1999 Ex Parte Filing.*

⁷³ There are four recognized public safety frequency coordinators for the 700 MHz public safety band: Association of Public-Safety Communications Officials, Inc. (APCO); International Municipal Signal Association (IMSA); Forestry Conservation Communications Association (FCCA) and American Association of State Highway and Transportation Officials (AASHTO).

⁷⁴ Guard Band Managers must also notify other Guard Band Managers in the same geographic area in the event of partitioning or disaggregation.

this is a fair compromise between minimizing interference and allowing entities to operate as soon as possible. Further, this approach is consistent with the coordination approach used in other contexts, such as when the Commission consolidated private land mobile radio services in the *Refarming Proceeding*.⁷⁵ Guard Band Managers must also notify the same entities when an application for an individual station license is filed with the Commission and users must wait the same 10-day period. We expect Guard Band Managers to cooperate with one another and the public safety community in the selection of frequencies. In the event of harmful interference, Guard Band Managers are expected to cooperate to resolve the problem by mutually satisfactory arrangements. If the parties involved are unable to reach a mutually satisfactory solution, the Commission may impose restrictions on the operation(s) of any of the parties involved, consistent with its enforcement powers under the Communications Act.

36. *Statutory Considerations.* We find that the licensing of spectrum in this band to Guard Band Managers is consistent with Section 337 of the Communications Act. Congress instructed the Commission to reallocate 24 MHz of the spectrum between 746 and 806 MHz for public safety services and 36 MHz of that spectrum for commercial use.⁷⁶ Although Section 337 provides a specific definition of "public safety services,"⁷⁷ Section 337 does not provide a definition of "commercial use."⁷⁸ We believe it is a reasonable interpretation of the "commercial use" requirement in Section 337(a)(2) to permit non-public safety, commercial entities to lease spectrum within the 36 megahertz to third-party users (commercial or individual) upon which no end-use restrictions, except for the technical restrictions set forth above to protect public safety, will be imposed. Such an approach, in our view, is fully consistent with our spectrum management obligations and the public interest.

⁷⁵ Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Radio Services, PR Docket No. 92-235, *Second Report and Order*, 12 FCC Rcd 14307, 14330-36, paras. 43-53 (1997) ("*Refarming Proceeding*").

⁷⁶ 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).

⁷⁷ Section 337(f)(1) defines "public safety services" as "services –

(A) the sole or principal purpose of which is to protect the safety of life, health, or property;

(B) 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; and

(C) that are not made commercially available to the public by the provider."

⁷⁸ See 47 U.S.C. § 337(f). In the context of cable communications, Congress defined "commercial use" as "the provision of video programming, whether or not for profit." 47 U.S.C. § 532(b)(5). The definition, by its terms, is limited to that section of the statute. *Id.*

37. Section 337(a)(2) directs the Commission to allocate 36 MHz of spectrum for “commercial use.” The legislation did not specify the particular radio service(s) for which the spectrum should be allocated. Instead, Section 337(a) describes only the nature of the activity for which the spectrum is to be used. Section 337(a)(1) requires the allocation of 24 MHz of spectrum for public safety services. In contrast, Section 337(a)(2) requires the allocation of 36 MHz of spectrum for “commercial use.” Because Section 337(a)(2) does not specify commercial mobile radio services, common carrier services, or any other individual radio service or category of radio services, we find that the most plausible reading of that section is that it was intended to characterize the nature of the spectrum use as a means of distinguishing it from the public safety use of the companion 24 MHz of nonauctionable spectrum allocated in the same section of the statute.⁷⁹

38. In our *Reallocation Report and Order*, we adopted a spectrum allocation for the 746-764 MHz and 776-794 MHz bands that enabled the provision of both fixed and mobile services.⁸⁰ Accordingly, if Section 337(a) does not restrict these bands to mobile services, then it should not be interpreted to limit use of the bands to CMRS.⁸¹ Had Congress specifically designated 36 MHz of spectrum for CMRS, we might conclude that Congress used that regulatory classification to distinguish the radio services from services other than CMRS that clearly fall outside the definition of CMRS.⁸² However, because Section 337(a)(2) refers to “commercial use” and not to “CMRS,” we do not interpret that reference to preclude the Band Manager from leasing for profit the spectrum to entities that will provide PMRS or other private services that are used in commercial settings. We note further that Section 337(a) does not designate these bands for radio services that are “made commercially available to the public,” a term Congress used in Section 309(j)(2)(A) to exclude common carrier services from the definition of public safety radio services that are exempt from auction.⁸³ We therefore conclude that in designating the 746-764 and 776-794 MHz bands for “commercial use,” Congress did not limit use of the bands to common carriers.⁸⁴

39. Our decision to reserve this spectrum for Guard Band Managers is consistent with Congress’s direction that users of the public safety spectrum be protected from interference. Section 337(d)(4) states that the Commission “shall establish rules insuring that public safety services licensees using spectrum

⁷⁹ See, e.g., *Russello v. United States*, 464 U.S. 16, 23 (1983) (when Congress uses certain language in one part of the statute and different language in another, the court assumes that different meanings were intended).

⁸⁰ See *Reallocation of Television Channels 60-69, the 746-806 MHz Band*, ET Docket No. 97-157, *Report and Order*, 12 FCC Rcd 22953, 22959 para. 13 (1998) (“*Reallocation Report and Order*”), *recon.*, 13 FCC Rcd 21578 (1998) (“*Reallocation Reconsideration*”).

⁸¹ In the *700 MHz First Report and Order*, we configured these bands for expanded wireless fixed and mobile service. See *700 MHz First Report and Order* at paras. 15-19, 35-39.

⁸² See 47 U.S.C. § 332(d) (defining “commercial mobile service” and “private mobile service”). See also PCIA *Ex Parte* Filing of December 20, 1999 at 1-2 (discussing the statutory definitions of “CMRS” and “PMRS”).

⁸³ See 47 U.S.C. § 309(j)(2)(A). A radio service is considered to be a common carrier service if it is available to the public. See *Implementation of Sections 3(n) and 332 of the Communications Act*, GN Docket No. 93-252, *Fourth Report and Order*, 9 FCC Rcd 7123, 7125 para. 11 (1994).

⁸⁴ Where Congress includes particular language in one section of a statute but omits it in another section of the same statute, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion. See *Brown v. Gardner*, 513 U.S. 115,120 (1994) (quoting *Russello v. United States*, 464 U.S. 16, 23 (1983)).

reallocated pursuant to subsection (a)(1) shall not be subject to harmful interference from television broadcast licensees.”⁸⁵ The Conference Report pertaining to that section states that the Commission should ensure that public safety service licensees in the 746-806 MHz band “continue to operate free of interference from any new commercial licensees.”⁸⁶ A number of parties in this proceeding have emphasized the need to create Guard Bands to accomplish this legislative directive.⁸⁷ As discussed above in paragraphs 30-32, we agree with those commenters and believe that the most effective and efficient way to manage the Guard Bands is to license them to Guard Band Managers.

40. Moreover, Section 337 supports our licensing of spectrum in the 746-764 MHz and 776-794 MHz bands to Guard Band Managers because this licensee is a commercial entity that will be engaged in a for-profit use of the spectrum.⁸⁸ The term “commercial” generally is understood to cover activities that are engaged in for the purpose of earning income.⁸⁹ The spectrum leasing activities performed by a Guard Band Manager constitute a commercial use because such services are provided for value, on a for-profit basis.⁹⁰ Among the specific functions the Guard Band Manager will perform are: coordinating access to the spectrum, performing engineering and data base management, resolution of interference conflicts, and collecting payment from its customers for providing them with access to spectrum that they then can use as part of their own wireless operations. Thus, we conclude that the Guard Band Manager’s generation of revenues from its use of the licensed spectrum meets the Section 337(a)(2) requirement that the spectrum be for commercial use.⁹¹

41. Finally, many of the arguments of the opponents of Guard Band Manager licensing are based on the assumption that the Guard Band Manager’s customers will be restricted to entities eligible for

⁸⁵ 47 U.S.C. § 337(d)(4).

⁸⁶ Conference Report at 580.

⁸⁷ See APCO Comments at 3; APCO October 20, 1999 *Ex Parte* Filing; APCO November 16, 1999 *Ex Parte* Filing at 1-2; NCC November 18, 1999 *Ex Parte* Filing at 2; Motorola December 2, 1999 *Ex Parte* Filing (incorporating several *ex parte* filings in this proceeding by other parties). See also NCC August 25, 1999 *Ex Parte* Filing at 2.

⁸⁸ See Motorola November 3, 1999 *Ex Parte* Filing at 10.

⁸⁹ See Webster’s Third New International Dictionary 456 (1976), cited in *United States v. Kim*, 193 F.3d 567, 577 (2d Cir. 1999). See also Implementation of Section 25 of the Cable Television Consumer Protection and Competition Act of 1992, Direct Broadcast Satellite Public Interest Obligations, MM Docket 93-25, *Report and Order*, 13 FCC Rcd 23254, 23290 para. 86 (1998) (distinguishing “non-commercial” entities from “commercial” entities organized for profit-making purposes).

⁹⁰ See ITA October 7, 1999 *Ex Parte* Filing at 3; ITA November 5, 1999 *Ex Parte* Filing, attachment at 2; Motorola November 12, 1999 *Ex Parte* Filing at 4.

⁹¹ We reject FreeSpace’s contention that our interpretation of Section 337(a) should instead be based on a bill introduced, but ultimately not passed, during debate on the Balanced Budget Act of 1997, that would have required the Commission to allocate an additional 12 MHz of spectrum for private radio uses. See FreeSpace October 27, 1999 *Ex Parte* Filing at 4. We do not think that Congress’s consideration of a proposed set aside of additional spectrum for private users can be construed to mean that Congress intended to foreclose the Commission from making other spectrum available under a Guard Band Manager licensing approach in which spectrum may be commercially leased for the benefit of private users, among others.

private wireless licenses,⁹² which is the approach proposed by numerous commenters that support the licensing of Guard Band Managers.⁹³ We do not restrict, however, Guard Band Managers to serving private wireless users. Instead, we permit them to lease spectrum to a wide range of customers, including network operators that provide fixed or mobile internal communications services or commercial radio services to end users. The only proviso on eligibility to lease spectrum from a Guard Band Manager is that all of a Guard Band Manager's customers must adhere to the technical limitations on operations discussed above.⁹⁴ The conclusion that the business of leasing spectrum as a Guard Band Manager constitutes a commercial use is not changed by the fact that private users are permitted to lease spectrum from Guard Band Managers. No commenter has suggested that a commercial user of the spectrum loses that status because private users are among its customers.

42. *Spectrum Management Authority.* We also conclude that the creation of the Guard Band Manager as a new class of licensee is consistent with our broad licensing and spectrum management authority under Sections 301, 303(b), and 309(j) of the Communications Act⁹⁵ and our broad authority to adopt reasonable rules in the public interest establishing licensing eligibility criteria.⁹⁶ In the licensing of the mobile satellite service, the Commission concluded that it had authority to adopt a licensing rule which required that service be provided by a consortium of applicants.⁹⁷ The Commission found that it was not prohibited from adopting a consortium licensing approach that it found to be in the public interest, merely because the Communications Act does not expressly provide for the use of consortia in licensing proceedings.⁹⁸ The same logic applies here, where the statute directing the Commission to license these bands for "commercial use" by competitive bidding did not specifically limit eligible uses to one type of "commercial" activity.

⁹² See, e.g., FreeSpace Oct. 27, 1999 *Ex Parte* Filing; FreeSpace Nov. 22, 1999 *Ex Parte* Filing; Bell Atlantic Dec. 17, 1999 *Ex Parte* Filing; MSTV Dec. 27, 1999 *Ex Parte* Filing. See also CTIA Dec. 15, 1999 *Ex Parte* Filing.

⁹³ See, e.g., Motorola Nov. 3, 1999 *Ex Parte* Filing; ITA Nov. 5, 1999 *Ex Parte* Filing; Motorola Nov. 12, 1999 *Ex Parte* Filing; AMTA November 19, 1999 *Ex Parte* Filing; PCIA Nov. 23, 1999 *Ex Parte* Filing; Dataradio Nov. 30, 1999 *Ex Parte* Filing; Boeing Dec. 2, 1999 *Ex Parte* Filing; ITA Dec. 9, 1999 *Ex Parte* Filing.

⁹⁴ See *supra* paragraphs 14-24, and *infra* paragraphs 97-101, 112-115.

⁹⁵ 47 U.S.C. §§ 301, 303, 309(j)(3), (4). Section 303(b) authorizes the Commission to prescribe the nature of the service to be rendered by each class of licensed station. Section 309(j)(3) authorizes the Commission to specify the eligibility and other characteristics of licenses to be issued by competitive bidding. Section 309(j)(4) authorizes the Commission to prescribe license area designations and bandwidth assignments that promote an equitable distribution of licenses and services among geographic areas and promote economic opportunity for a wide variety of applicants.

⁹⁶ See *Fresno Mobile Radio, Inc. v. FCC*, 165 F.3d 965, 970-71 (D.C. Cir. 1999) (Commission acted within its discretion in deciding to assign licenses in the 800 MHz SMR service by auction); *DIRECTV, Inc. v. FCC*, 110 F.3d 816, 828 (D.C. Cir. 1997) (Commission had discretion to select new licensing scheme for Direct Broadcast Satellite service).

⁹⁷ Amendment of Parts 2, 22 and 25 of the Commission's Rules to Allocate Spectrum for and to Establish Other Rules and Policies Pertaining to the Use of Radio Frequencies in a Land Mobile Satellite Service for the Provision of Various Common Carrier Services, GEN Docket No. 84-1234, *Final Decision on Remand*, 7 FCC Rcd 266, 269 paras. 15-17 (1992).

⁹⁸ *Id.* at 268 para. 16.

43. The Guard Band Manager concept also is analogous to other Commission-sanctioned commercial applications in which free market management of the spectrum is permitted. For example, licensing of Guard Band Managers to lease spectrum is consistent with the Commission's rules allowing ITFS licensees to lease their excess channel capacity to MDS licensees and other entities on a for-profit basis.⁹⁹ Guard Band Manager licensing is also consistent with the Commission's rules permitting broadcasters to lease excess capacity on their systems by sharing the use of broadcast auxiliary facilities with other broadcast licensees and non-licensees on a for-profit basis.¹⁰⁰ In neither of the cited instances did we find it inconsistent with our statutory licensing responsibilities to allow licensees to contract for the use of their licensed frequencies by non-licensees. In the case of broadcast auxiliary facilities, the Commission emphasized that it would hold the broadcast licensee responsible for any interference or misuse of the facilities that occurs during operation by the non-licensed user.¹⁰¹ We see no reason why it should make a difference to our analysis of our statutory authority that, in the case of the Guard Band Manager, the licensee acquires its license for the principal purpose of leasing its capacity to others, rather than as an incident to its own use of the licensed frequency.

44. Under the Commission's rules for private land mobile radio services, licensees may share the use of their facilities by permitting persons not licensed for the station to operate the station for their own purposes pursuant to the licensee's authorization. Shared use of the frequencies may be on a non-profit, cost-shared, or for-profit private carrier basis.¹⁰² The licensee is responsible for ensuring that the authorized facility is used for purposes consistent with the requirements of our rules.¹⁰³ We see no reason to distinguish between our authority to allow the shared use of authorizations under Part 90 and our authority to allow Guard Band Managers to enter agreements for use of their authorizations by non-licensees.¹⁰⁴

45. Also, the use of Guard Band Managers to make frequencies available to third-party service providers or end users ("spectrum users") will be similar in certain respects to the frequency coordination process by which many private land mobile radio (PLMR) services frequencies are assigned to individual applicants. Although PLMR applicants have had the option to use a frequency coordinator to select their frequencies since 1958, the Commission, in 1986, required all PLMR licensees to coordinate their frequency selections with certified coordinators under Section 90.175 of the Commission's rules.¹⁰⁵ The

⁹⁹ See 47 C.F.R. § 74.931(e).

¹⁰⁰ See 47 C.F.R. § 74.631(f).

¹⁰¹ See Amendment of Part 74, Subpart F of the Commission's Rules to Permit Shared Use of Broadcast Auxiliary Facilities with Other Broadcast and Non-broadcast Entities and to Establish New Licensing Policies for Television Broadcast Auxiliary Stations, BC Docket No. 81-794, *Report and Order*, FCC 83-153, at para. 12, 53 Rad. Reg. 2d (P & F) 1101, 1983 WL 183062 (1983).

¹⁰² See 47 C.F.R. § 90.179.

¹⁰³ See 47 C.F.R. § 90.179(b).

¹⁰⁴ See also 47 C.F.R. § 101.135, permitting licensees of private operational fixed point-to-point microwave services to share the use of their facilities.

¹⁰⁵ See Frequency Coordination in the Private Land Mobile Radio Services, PR Docket No. 83-737, *Report and Order*, 103 FCC 2d 1093 (1986) ("*1986 Report*"). The Commission's frequency coordination requirement was established pursuant to authority, granted in 1982, "to utilize assistance furnished by advisory coordinating committees . . ." 47 U.S.C. § 332(b)(1).

Commission concluded that the elevated role and responsibilities of frequency coordinators would improve the quality of frequency selections, expedite licensing, and improve spectrum efficiency.¹⁰⁶ Thus, a PLMR applicant is now required to use a frequency coordinator to select a frequency that will most effectively meet the applicant's needs while minimizing interference to licensees already using a given frequency band. The Guard Band Manager is, in a sense, a "next generation" frequency coordinator, since it will engage in many activities similar to those of a traditional coordinator, but with greater rights and responsibilities to "manage" spectrum, consistent with technical limitations and other regulations we establish for Guard Band Managers in these bands, because it will be an actual Commission licensee.

46. Moreover, we believe that the Guard Band Manager concept is consistent with the requirement in Section 310(d) of the Communications Act that licensees retain ultimate *de facto* control of their licenses. As discussed in paragraphs 48-51, *infra*, Guard Band Managers will have full authority and the duty to take whatever actions are necessary to ensure third-party compliance with the Act and our rules. Moreover, Guard Band Managers will have a clear financial stake in the operation of their systems through their agreements with third parties.

47. In short, in establishing this new class of licensee, we do not exceed our statutory authority or relinquish our statutory responsibilities pertaining to the licensing of wireless services. The Commission will continue to fulfill its statutory obligation under Section 309(a) to determine whether the public interest, convenience, and necessity will be served by the granting of the Guard Band Manager's license application. As with any other licensee, the Commission will hold Guard Band Managers directly responsible for compliance with all obligations that the Communications Act imposes on licensees. The Commission will also hold Guard Band Managers directly responsible for any interference or misuse of the frequencies arising from their use by non-licensed entities.¹⁰⁷ Further, the Commission intends to exercise its general enforcement powers under Section 303 of the Act by imposing appropriate sanctions against noncomplying Guard Band Managers, and where warranted, revoking licenses pursuant to Section 312 of the Act, for violations of the Act or Commission regulations committed by the Guard Band Manager or third-party users of its licensed spectrum. Finally, we emphasize that third-party spectrum users who violate our rules or other federal laws are subject to forfeitures under Section 503 of the Communications Act,¹⁰⁸ other administrative sanctions, and criminal prosecution.¹⁰⁹

48. *Rules Governing Guard Band Manager Licenses.* Any concerns that might be raised about the Guard Band Manager's ability to manage the spectrum in the best interest of prospective eligible users can be addressed by Commission rules that will govern both the Guard Band Manager's operations and its contractual relationships with third-party users. ITA has suggested a number of terms and conditions that would be included in the Guard Band Manager's written agreement with its customers, and we agree with ITA that Guard Band Managers should be required to include at least some of these provisions in their contracts.¹¹⁰ With respect to many of the other contractual terms and conditions suggested by ITA, we do

¹⁰⁶ See 1986 Report at para. 53.

¹⁰⁷ See, e.g., Amendment of Part 90 of the Commission's Rules to Eliminate Separate Licensing of End Users of Specialized Mobile Radio Systems, *Report and Order*, 7 FCC Rcd 5558, 5559-60 paras. 9,14 (1992) ("800 MHz SMR End User Licensing Report and Order").

¹⁰⁸ 47 U.S.C. § 503.

¹⁰⁹ See, e.g., 800 MHz SMR End User Licensing Report and Order, 7 FCC Rcd at 5559-60 para. 14.

¹¹⁰ See ITA November 5, 1999 *Ex Parte* Filing.

not incorporate them in our service rules, but rather will leave to the Guard Band Managers' discretion the decision whether such terms and conditions are necessary in the prudent structuring of the Guard Band Manager-customer relationship. Consistent with our decision to afford licensees in the 746-764 MHz and 776-794 MHz bands maximum practicable flexibility in use of this spectrum, we will not encumber Guard Band Managers with numerous regulations at this time. We will, however, closely monitor how Guard Band Managers carry out their spectrum management responsibilities and will impose more detailed rules of general applicability if we are presented with evidence of specific conduct that would warrant imposition of such rules.¹¹¹

49. The Guard Band Manager will contractually provide customers the right to use certain frequencies in its service area, as identified in the contract. The duration of spectrum user agreements may vary; however, no agreement may extend beyond the term of the Guard Band Manager's FCC authorization. The Guard Band Manager may enter into contingent agreements providing any spectrum user with an option or right to renew its agreement if the Guard Band Manager is able to renew its authorization on similar terms and conditions with the Commission. We will also require Guard Band Manager agreements to detail the operating parameters of the spectrum user's system, including power, maximum antenna heights, frequencies of operation, base station location(s), area(s) of operation, and other parameters as appropriate. Additionally, the spectrum user must agree to operate its system in compliance with all technical specifications for the system consistent with Commission policy, and must use FCC-approved equipment where appropriate. Guard Band Managers will also be required to include provisions in their agreements that the spectrum user complete post-construction proofs of system performance prior to system activation. This is to ensure, among other things, that public safety licensees on adjacent bands do not encounter interference.

50. Guard Band Manager contracts must include provisions that apply all existing licensee obligations to the spectrum user. For example, the spectrum user must agree to comply with all applicable Commission rules, and accept FCC oversight and enforcement consistent with the Guard Band Manager's license. We will also require Guard Band Managers to include provisions in their contracts obligating the spectrum user to cooperate fully with any investigation or inquiry conducted by either the Commission or the Guard Band Manager.¹¹² In the event that the Guard Band Manager has knowledge or reason to believe that its customer has committed a violation of the Commission's rules, or that the customer's system is causing harmful interference with other systems, the Guard Band Manager will have the right to conduct onsite inspections of all transmission facilities. If the Guard Band Manager determines that there is an ongoing violation of the Commission's rules or that the customer's system is causing harmful interference, the Guard Band Manager shall have the right to suspend or terminate the operation of the system, or take other measures to resolve the interference until the situation can be remedied. Third-party spectrum user agreements must also stipulate that if the customer refuses to comply with a suspension or termination order, the Guard Band Manager will be free to use all legal means necessary to enforce the order. Finally, we will require Guard Band Managers to maintain their written agreements with spectrum users at their principal place of business, and to retain these records for at least two years after the date such agreements expire.¹¹³ We will require that these records be kept current and be made available upon request for

¹¹¹ See Motorola November 12, 1999 *Ex Parte* Filing at 4.

¹¹² See 47 U.S.C. § 308(b).

¹¹³ Congress has stipulated that OMB approval pursuant to the Paperwork Reduction Act of 1995, 44 U.S.C. § 3507, is not required for rules governing this spectrum. See *Consolidated Appropriations*, Appendix E, Section 213(a)(4)(B). See also 145 Cong. Rec. at H12493, Nov. 17, 1999.

inspection by the Commission or its representatives.

51. In the event that there is a dispute between a Guard Band Manager and one of its customers, or among multiple customers of the same Guard Band Manager, we expect such disputes to be resolved by the Guard Band Manager in the same manner that the parties would resolve other commercial disputes arising under the contract. We will, however, consider any complaints filed against a Guard Band Manager for violating the Act or the Commission's policies. We will resolve such complaints pursuant to our authority granted in Sections 308(b) and 309(d) of the Act.¹¹⁴ With respect to disputes between non-contracting parties and a Guard Band Manager or the Guard Band Manager's customers, when the Guard Band Manager is unable or unwilling to resolve such disputes in a timely fashion, we will permit the aggrieved party to file a complaint with the Commission, which we will consider to ensure the Guard Band Manager and its customers are complying with the requirements of the Act, our rules, and the terms of the Guard Band Manager license. We emphasize, however, that we expect Guard Band Managers to carefully coordinate use of their licensed frequencies to ensure that their customers do not interfere with public safety or other licensees on adjacent channels.

B. Licensing Rules

52. In the *NPRM* we sought comment on licensing rules for a full range of possible licensees, consistent with our stated intention to permit as much flexibility in the use of this spectrum as is consistent with the requirements of Section 303(y) of the Communications Act.¹¹⁵ In the *700 MHz First Report and Order* we established licensing rules for the 746-764 MHz and 776-794 MHz bands. In the interests of flexibility and optimum spectrum use, we here enable Guard Band Managers to make their licensed spectrum available to customers for the customer's internal use or for the provision of any service, so long as the licensee and its customers comply with the technical rules governing Guard Band spectrum use. The following discussion addresses licensing rules for use of the Guard Bands.

1. Regulatory Status

53. **Background.** In the *NPRM*, we sought comment on whether to apply the existing licensing framework established in Part 27 for the Wireless Communications Service (WCS) to the 746-764 MHz and 776-794 MHz bands.¹¹⁶ Part 27 accords licensees the flexibility to provide any fixed, mobile or radiolocation service contained in the non-government column of Table of Allocations in Part 2 of the Commission's Rules¹¹⁷ for this spectrum. We also sought comment in the *NPRM* on the need to modify Form 601 or any other appropriate forms to account for the uses permitted for these bands. In the *700 MHz First Report and Order*, we determined that we will require applicants to identify whether they seek to provide common carrier services or other services permitted under the final rules adopted therein.¹¹⁸

¹¹⁴ See, e.g., 47 U.S.C. § 308(b) (authorizing the Commission, during the term of any license, to require a licensee's submission of information to enable the Commission to determine whether such license should be revoked). See also 47 C.F.R. § 1.41 (informal requests for Commission action).

¹¹⁵ 47 U.S.C. § 303(y).

¹¹⁶ *NPRM* at para. 57.

¹¹⁷ Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service ("WCS"), GN Docket No. 96-228, *Report and Order*, 12 FCC Rcd 10785, 10797-10802 paras. 25-36 ("*Part 27 Report and Order*").

¹¹⁸ *700 MHz First Report and Order* at para. 46.

However, licensees in the 30 megahertz spectrum block will not be required to describe the specific services they seek to provide but only to designate the regulatory status of the services.¹¹⁹ We also concluded in the *700 MHz First Report and Order* that spectrum in the 30 megahertz block, if used to provide CMRS, will not be subject to the CMRS spectrum cap in Section 20.6 of the Commission's rules.¹²⁰

54. **Discussion.** Because the Guard Band Manager licensee will act only as a spectrum broker and not as a wireless service provider, it will not be a carrier of any type. Accordingly, as licensed in the 6 megahertz block of the 700 MHz band, the Guard Band Manager will not be a common carrier as defined in Section 3 of the Communications Act.¹²¹ Consistent with our decision to amend Form 601 to allow licensees in the 30 megahertz block to accurately designate the regulatory status of the services they provide, we have further amended item 35 of the Form 601 to add the Band Manager classification.¹²²

55. With respect to the CMRS spectrum cap, although Guard Band Managers will not provide services regulated as CMRS, they may lease their spectrum to customers that will provide CMRS and which will be required to comply with Commission rules applicable to CMRS providers. For the reasons we articulated in the *700 MHz First Report and Order*, we also determine that if, consistent with our technical requirements, the Guard Bands are used to provide CMRS, they will not count against the 45/55 megahertz spectrum cap.¹²³

2. Eligibility and Use Restrictions

56. **Background.** The *NPRM* sought comment on a range of issues raised in the *Balanced Budget Act Notice* regarding Band Manager licensing, including eligibility and use restrictions for Band Manager licenses, whether to adopt measures that might promote competition among Band Managers, and whether to adopt rules to ensure fair and nondiscriminatory access by prospective users of Band Manager Spectrum.¹²⁴ Sections 27.12 and 27.302 of the Commission's Rules¹²⁵ impose no restrictions on eligibility, other than the foreign ownership restrictions set forth in Section 310 of the Communications Act.¹²⁶ In the *700 MHz First Report and Order*, we decided to impose no restrictions on eligibility for a license in the 747-762 MHz and 777-792 MHz bands.¹²⁷

¹¹⁹ *Id.*

¹²⁰ 47 C.F.R. § 20.6. Under Section 20.6, a single entity may acquire attributable interests in the licenses of broadband PCS, cellular, and SMR services that cumulatively do not exceed 45 megahertz of spectrum within the same geographic area. In rural geographic areas, an entity may acquire as much as 55 megahertz of spectrum. *See 700 MHz First Report and Order* at paras. 48-53.

¹²¹ 47 C.F.R. § 153(10).

¹²² There is little record comment on the appropriate regulatory status of Band Managers.

¹²³ *See 700 MHz First Report and Order* at paras. 48-53.

¹²⁴ *See NPRM* at para. 15; *Balanced Budget Act Notice* at paras. 90-95.

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

¹²⁶ 47 U.S.C. § 310.

¹²⁷ *700 MHz First Report and Order* at para. 49.

57. **Discussion.** As discussed in paragraphs 26 –51, *supra*, we will assign licenses in the Guard Bands exclusively to Guard Band Managers. We will not impose restrictions on the types of entities that may be licensed as Guard Band Managers. Instead we adopt certain basic requirements for Guard Band Managers that will further our objective of making the Guard Band Manager spectrum available to a wide range of users.

58. We decide that we should assign licenses in the 6 megahertz Guard Bands solely to Guard Band Managers because it will be the most efficient and effective way to manage spectrum that is subject to commercial uses for the protection of public safety licensees in the adjacent bands. Thus, the purpose of the Guard Band Manager will be to lease spectrum to third parties, and in doing so, to efficiently manage the spectrum in a manner that also protects adjacent public safety bands from interference.¹²⁸ Guard Band Managers will have a financial incentive to coordinate use of their frequencies to ensure non-interference. Guard Band Managers may subdivide their spectrum and make it available to end users for private internal use, or to service providers that may provide common carrier or non-common carrier services to their customers. A Guard Band Manager may also aggregate the various demands for spectrum within its service area to meet the unique needs of that service area. As noted in our recent *Policy Statement* on spectrum management, the Commission is currently considering innovative assignment mechanisms that enable parties to more easily aggregate and disaggregate spectrum for alternative uses.¹²⁹ We believe the Guard Band Manager approach we adopt in this Report and Order can potentially be an important step in that direction.

59. We nevertheless recognize that some entities that could function efficiently as a Guard Band Manager, and may be interested in bidding on the spectrum licenses in this band on that basis, may also be affiliated with organizations that operate wireless systems and have use for this spectrum in their systems. Thus, we will permit Guard Band Managers to lease some of their licensed spectrum to affiliated entities for the affiliates' own internal use or for their provision of commercial or private radio services.¹³⁰ However, in order to ensure that we conduct a useful test of the Band Manager concept and obtain the full benefits of this new licensing approach, a core feature of which is leasing spectrum to third parties, we will require Guard Band Managers to lease the predominant amount of their spectrum to non-affiliates. We also provide Guard Band Managers with a "safe harbor" example of compliance with this requirement. To take advantage of this "safe harbor," a Guard Band Manager must lease no more than 49.9 percent of its licensed spectrum in a geographic service area to its affiliates. For the purpose of measuring the percent of spectrum leased under this rule, if a Guard Band Manager leases spectrum to an affiliate covering any portion of the defined geography of the service area, that spectrum will be considered to be leased to the affiliate.¹³¹

¹²⁸ See, e.g., APCO October 20, 1999 and November 15, 1999 *Ex Parte* Filings. See *supra* paragraphs 28-35.

¹²⁹ See Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium, *Policy Statement*, FCC 99-354, at 4, para. 12 (rel. November 22, 1999).

¹³⁰ We adopt for this purpose the definition of "affiliate" included in our Part 1 general competitive bidding rules, 47 C.F.R. § 1.2110(b)(4).

¹³¹ See generally PCIA December 10, 1999 *Ex Parte* Filing at 2-4 (proposing a method for measuring the percentage of spectrum used by a Band Manager in a geographic area); PCIA November 23, 1999 *Ex Parte* Filing at 3 (proposing to limit Band Managers to use of no more than 50 percent of licensed spectrum for their own internal purposes). We note that in a different context, the Wireless Telecommunications Bureau ("Bureau") recently determined that it would permit certain PMRS channels to be used in a licensee's 800 MHz Specialized Mobile Radio system if that licensee uses the PMRS frequencies "predominantly" to relocate

60. We clarify that among those that may be licensed as Guard Band Managers in the Guard Bands are entities in the critical infrastructure industries, such as utilities, railroads, transit systems, pipelines, and similar entities that utilize private communications systems to support their commercial operations. The critical infrastructure industries are not eligible for licensing in the 24 megahertz of spectrum allocated for public safety service providers.¹³² We find nothing in the language of Section 337 or its legislative history that indicates Congress intended to treat the critical infrastructure industries differently from other commercial entities by excluding them from both the 24 megahertz of safety spectrum and the 36 megahertz of commercial spectrum.

61. *Competition Among Guard Band Managers.* In the 700 MHz *First Report and Order*, we imposed no restriction on the amount of spectrum in the 30 megahertz block that one licensee may obtain. We consider here whether to limit the number of channel blocks in a geographic service area that may be licensed to a Guard Band Manager. We sought comment in the *NPRM* on whether we should grant more than one Band Manager license in a geographic area to allow for competition among Band Managers.¹³³ In the *Balanced Budget Act Notice*, we expressed the tentative view that each geographic area should have several competing Band Managers so that market forces can substitute for regulation of rates and services.¹³⁴

62. We received little comment on whether we should license more than one Guard Band Manager in a geographic service area. Motorola proposed that we allow a bidder to acquire both Guard Band Manager licenses in a geographic area.¹³⁵ PCIA suggests that the same entity should not initially be allowed to hold both licenses in a given market.¹³⁶ We agree with PCIA and for the first auction of licenses in the 6 megahertz block,¹³⁷ we will limit an entity and its affiliates¹³⁸ to holding only one of the two Guard Band Manager licenses that will be available in a geographic service area. We believe that the existence of multiple Guard Band Managers in a service area will help to ensure a meaningful test of this new licensing approach. Limiting the number of Guard Band Manager licenses that one entity may hold will provide us with an ability to benchmark one Guard Band Manager against another serving the same geographic service area. Moreover, by licensing more than one Guard Band Manager we will limit the possibility that small business users will be unable to obtain access to this spectrum in service areas where a Guard Band Manager leases some of its spectrum to its affiliates.

incumbent licensees from the upper 200 channels of 800 MHz band. For that purpose, the Bureau found that “predominant use” meant at least 75 percent of the channels involved in the licensees waiver request. *See* Nextel Communications, Inc., *Order*, 14 FCC Rcd 11678 (WTB 1999).

¹³² *See* 47 U.S.C. § 337(f) (defining “public safety services”).

¹³³ *See NPRM* at para. 15; *Balanced Budget Act Notice* at para. 95.

¹³⁴ *Balanced Budget Act Notice* at para. 95.

¹³⁵ *See, e.g.,* Motorola December 4, 1999 *Ex Parte* Filing.

¹³⁶ PCIA November 23, 1999 *Ex Parte* Filing at 3.

¹³⁷ However, if any Guard Band Manager licenses remain unsold after the first auction, we intend to lift this “one-to-a-market” rule in any subsequent auctions in this band.

¹³⁸ We adopt for this purpose the definition of “affiliate” included in our Part 1 general competitive bidding rules, 47 C.F.R. § 1.2110(b)(4).

63. *Allowable Restrictions on Spectrum Customers.* In the *NPRM*, we sought comment on how we can ensure fair and nondiscriminatory access by private radio users to spectrum licensed to a Band Manager.¹³⁹ We anticipate that the competitive environment in which Guard Band Managers will operate - competition from each other, from other sources of spectrum supply, and from providers of communications services -- will serve to constrain them from unreasonably restricting access to their spectrum. However, we believe that some general safeguards are appropriate for at least an initial period.

64. Our objective in establishing the Guard Band Manager license is to coordinate spectrum usage and to make spectrum available to a broad base of users, including businesses of all sizes, having needs that vary in terms of both the amount of spectrum and geographic coverage. We anticipate that some Guard Band Managers, like some frequency coordinators, may have direct affiliation with a class of users through trade associations and similar organizations. We are concerned that such relationships not affect the Guard Band Manager's decision on whether to make its spectrum available to a particular user. Consistent with the principles that the Commission has applied to frequency coordinators since 1958, we will expect Guard Band Managers not to engage in unjust or unreasonable discrimination among spectrum users and to honor all reasonable requests by potential users for access to the licensed spectrum.¹⁴⁰ Nevertheless, we recognize that the number of users that can be granted exclusive use of a Guard Band Manager's channels will be limited. We recognize also that a Guard Band Manager may have valid business reasons for denying a potential user's request for spectrum. For example, it might be reasonable for a Guard Band Manager to deny a request for spectrum that, if granted, would preclude it from entering into an agreement with another user needing coverage of a wider geographic area for a longer period of time.

65. Moreover, the number of individual users requesting access to spectrum, and the amount of spectrum or geographic coverage needed by each of them, may vary widely among Guard Band Managers. Because the Guard Band Manager license is a new concept and we cannot predict the type or amount of demand that will exist for spectrum licensed in this manner, we think it is appropriate to provide Guard Band Managers with a considerable amount of latitude to develop methods and procedures for determining the most efficient way to apportion their spectrum among prospective users.¹⁴¹ We believe the Guard Band Manager should be free to enter into as many user agreements as it determines to be feasible given the capacity and other technical limits on use of its spectrum, market demand, and the varied needs of its users for different amount of spectrum for different periods of time. For this reason, we will not impose specific requirements on the number of users that must be provided access to their spectrum. As noted in paragraph 59, *supra*, we will require only that Guard Band Managers lease the predominant amount of their spectrum to non-affiliates.¹⁴² Furthermore, because we will license Guard Band Manager spectrum using Major Economic Areas (MEAs), which are comparatively large regional licensing areas,¹⁴³ we believe that Guard Band Managers are unlikely to acquire this spectrum primarily for the internal use of affiliates.

¹³⁹ See *NPRM* at para. 15; *Balanced Budget Act Notice* at para. 95.

¹⁴⁰ See *Frequency Coordination in the Private Land Mobile Radio Services*, PR Docket No. 83-737, *Report and Order*, 103 FCC2d 1093, para. 18 (1986).

¹⁴¹ See *Motorola* November 24, 1999 *Ex Parte* Filing at 5 (asserting that extensive rules to ensure competition or "fair access" are not required).

¹⁴² See generally *PCIA* November 23, 1999 *Ex Parte* Filing at 3 (proposing to limit Band Managers to use of no more than 50 percent of licensed spectrum for their own internal purposes).

¹⁴³ See *infra* paragraphs 69-71.

66. We also recognize the potential for Guard Band Managers to impose unnecessary conditions or restrictions on their spectrum users, which may have anticompetitive impacts on those entities with whom the Guard Band Manager is in competition. Therefore, we will adopt a rule prohibiting Guard Band Managers from imposing unduly restrictive requirements on use of its licensed frequencies. By unduly restrictive, we mean any requirement that is not reasonably related to the efficient management of the spectrum licensed to the Guard Band Manager. Requirements that *are* reasonably related to the Guard Band Manager's spectrum management responsibilities are those that are necessary to ensure efficient spectrum use or ensure compliance with the Commission's rules, including those rules pertaining to field strength limits, power and antenna height limits, interference, emission limits, and radiofrequency (RF) safety requirements. We believe that such a rule will help forestall a Guard Band Manager from burdening a spectrum user with requirements that are designed solely or largely to harm a competitor of the Guard Band Manager or a competitor of the Guard Band Manager's affiliate. For example, we would consider it unduly restrictive for a Guard Band Manager to require a spectrum user to purchase telecommunications equipment only from one manufacturer or vendor, to require use of a particular technology, or to impose operating rules that would have the same practical effect. As noted above, we will consider any complaints filed against a Guard Band Manager for unreasonably denying access to its spectrum or imposing unreasonable terms and conditions on third-party service providers or end users, pursuant to our authority granted in Sections 308(b) and 309(d) of the Communications Act.¹⁴⁴

67. We conclude that the requirements outlined above will be adequate to accomplish our objective of making the Guard Band Manager spectrum available to a wide range of users. We are prepared, however, to reconsider our decision and impose additional constraints if we receive complaints indicating that Guard Band Managers are unfairly denying access to spectrum, or imposing unreasonable terms and conditions on its use, thereby undermining our objectives in licensing Guard Band Managers. Conversely, and we hope more likely, we are prepared to lift these requirements if experience with the Guard Band Manager licensing approach proves them unnecessary.

3. Size of Service Areas for Geographic Area Licensing

68. **Background.** In the *NPRM*, we requested comment on the type of service area or areas that should be used to license the 746-764 MHz and 776-794 MHz bands.¹⁴⁵ Part 27 spectrum previously has been licensed based on one of two kinds of service areas: twelve Regional Economic Area Groupings (REAGs) or 52 Major Economic Areas (MEAs).¹⁴⁶ REAs¹⁴⁷ and MEAs are based on the 172 Economic Areas (EAs) defined by the U.S. Department of Commerce, as modified by the Commission. Licensing Part 27 spectrum using REAs and MEAs allowed us to balance various specific competing needs.¹⁴⁸ In the

¹⁴⁴ 47 U.S.C. §§ 308(b), 309(d). If we find that a Guard Band Manager is not complying with the terms of its license, we will determine whether to impose appropriate remedies or sanctions. See 47 U.S.C. §§ 312, 503. See also 47 U.S.C. § 154(i).

¹⁴⁵ *NPRM* at para. 21.

¹⁴⁶ Section 27.6 of the Commission's Rules, 47 C.F.R. § 27.6. See also *Part 27 Report and Order*, 12 FCC Rcd 10785, 10814-16, paras. 54-60 (1997).

¹⁴⁷ "REAs" (Regional Economic Areas) refer to the 12 regions established in the WCS auction, which at that time were known as Regional Economic Area Groupings (REAGs). See OET mapping information on the FCC website <www.fcc.gov/oet/info/maps/areas/>.

¹⁴⁸ *Part 27 Report and Order*, 12 FCC Rcd at 10814-15, para. 55.

220 MHz auction, we auctioned spectrum in six Economic Area Groupings (EAGs) which were also based on EAs as defined by the Department of Commerce.¹⁴⁹ In the *700 MHz First Report and Order*, we decided to license both the 20 megahertz and the 10 megahertz licenses according to the six EAGs.¹⁵⁰

69. **Discussion.** We will license both the 2 megahertz channel pair and the 1 megahertz channel pair using MEAs. Only a few parties commented on the appropriate size of service areas for Guard Band Manager licenses. Motorola has proposed that we authorize one channel pair for nationwide licensing and one channel pair for regional licensing, using MEAs.¹⁵¹ PCIA also proposes licensing one block of Guard Band Manager spectrum using MEAs, but proposes that we license the second spectrum block using EAs.¹⁵² AMTA states its preference for the use of EAs to license Guard Band Manager spectrum, but proposes in the alternative that we use MEAs rather than a larger regional licensing area.¹⁵³ In adopting geographic area licensing for the Guard Band Manager spectrum, we agree with Motorola that there are certain advantages to large license areas. However, we are concerned about the number of entities, especially small or medium-sized businesses, that would be capable of bidding in the auction on a nationwide license.¹⁵⁴ At the same time, we are concerned that if the spectrum is licensed based on only relatively small areas, there may be a significant number of licenses for which there will be little or no competition. Additionally, we must consider, as we did with respect to the 30 megahertz spectrum block, our statutory obligation to conduct the auction for the 6 megahertz block to ensure that all proceeds are deposited by September 30, 2000, and our experience in previous auctions 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.

¹⁴⁹ See Appendix C. The *220 MHz Third Report and Order* established groupings of EAs into six regions of approximately equal population size based on the 1990 census. See, In the Matter of Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service, PR Docket No. 89-552, RM-8506, Implementation of Sections 3(n) and 332 of the Communications Act, GN Docket No. 93-252, Regulatory Treatment of Mobile Services Implementation of Section 309(j) of the Communications Act – Competitive Bidding, PP Docket No. 93-253, FCC 97-57, *Third Report and Order; Fifth Notice of Proposed Rulemaking*, 12 FCC Rcd. 10943, (Appendix E) (1997) (“*220 MHz Third Report and Order*”).

¹⁵⁰ *700 MHz First Report and Order* at paras. 56-61. These EAGs were configured along the boundaries of the Commission's Economic Areas (EAs), except that EA 176 (Gulf of Mexico) was divided laterally between EAG003 and EAG005, using the boundary established by the Mineral Management Services Bureau of the Department of the Interior (MMS) to divide its Central Planning Area for the Gulf of Mexico from its Western Planning Area for the Gulf of Mexico. We note, in this regard, that the perimeter of EA 176 is not coincident with that for MMS's Gulf of Mexico Planning Areas, and that we used MMS's Planning Areas in the *700 MHz First Report and Order* merely to divide EA 176 laterally between EAG003 and EAG005, while leaving the remaining boundaries of EA 176 unchanged. See Section 27.6(b)(2)(i) and (ii) of the Commission's Rules. 47 C.F.R. § 27.6(b)(2)(i) and (ii).

¹⁵¹ Motorola October 4, 1999 *Ex Parte* Filing.

¹⁵² PCIA November 23, 1999 *Ex Parte* Filing.

¹⁵³ AMTA Comments at 8; AMTA November 19, 1999 *Ex Parte* Filing; AMTA December 7, 1999 *Ex Parte* Filing; AMTA December 9, 1999 *Ex Parte* Filing.

¹⁵⁴ Section 309(j)(3)(B) of the Communications Act includes as objectives for competitive bidding the avoidance of excessive concentration of licenses and the dissemination of licenses among a wide variety of applicants. 47 U.S.C. § 309(j)(3)(B).

70. Balancing the various factors noted above, we conclude that the paired 2 megahertz channels and the paired 1 megahertz channels should be licensed using MEAs. MEAs will provide optimum opportunity for both aggregation and partitioning of geographic areas to suit a wide variety of possible business plans. MEAs will facilitate greater participation in the auction, allow a larger number and more diverse pool of Guard Band Managers than nationwide or larger regional licensing areas and result in increased competition, and result in broader flexibility in spectrum offerings by Guard Band Managers.¹⁵⁵

71. We will not use EAs to license Guard Band Managers because we recognize certain overall advantages to larger-sized areas for this spectrum block. Larger licensing areas will better enable Guard Band Managers to coordinate the use of their frequencies around incumbent TV stations in this band, which operate in fairly large areas protected from interference. We also believe that the use of licensing areas that are larger than EAs will facilitate aggregation of spectrum by bidders desiring a larger regional license or even a nationwide license. Moreover, even if there is no demand for a nationwide Guard Band Manager license, the use of larger MEAs will make it easier for end users that need less than 4 megahertz or 2 megahertz of spectrum to obtain nationwide or wide-area coverage than if the spectrum were licensed in many smaller geographic areas. Alternatively, a bidder could aggregate several MEAs into a larger region while the winning bidders of the remaining licenses partition their MEAs into smaller geographic areas in response to the needs of smaller users.¹⁵⁶ In sum, we believe that the use of MEAs will facilitate the participation of smaller entities, while simultaneously giving medium-sized and larger companies the flexibility to aggregate spectrum to put together regional and nationwide licenses tailored to their particular business needs.

4. License Term; Renewal Expectancy

72. **Background.** In the *NPRM* we proposed to adopt the license term and renewal provisions in Part 27 of the Commission's Rules, for other than new broadcast-type services. Section 27.13 limits the license term to 10 years from the date of original issuance or renewal.¹⁵⁷ Section 27.14(b) establishes a licensee's right to a renewal expectancy.¹⁵⁸ In the *700 MHz First Report and Order*, we modified the license term as it relates to the 747-762 MHz and 777-792 MHz bands, to accommodate licensees' need for additional time to develop and use this spectrum, in light of its continued use by broadcasters until 2006.¹⁵⁹

We determined that a license issued to a winning bidder for this spectrum will extend eight years beyond the year 2006, the date as of which incumbent broadcasters are required to have relocated to other portions of the spectrum,¹⁶⁰ that is, until January 1, 2015,¹⁶¹ for a total of approximately 14 years.¹⁶² Because the

¹⁵⁵ See Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service ("WCS"), GN Docket No. 96-228, *Report and Order*, 12 FCC Rcd 10785, 10815 para. 57 (1997).

¹⁵⁶ See *infra* paragraphs 82 - 84, in which we conclude that Guard Band Managers will be permitted to partition their service areas to other eligible Guard Band Managers in accordance with our service rules.

¹⁵⁷ 47 C.F.R. § 27.13.

¹⁵⁸ 47 C.F.R. § 27.14(b).

¹⁵⁹ See *700 MHz First Report and Order* at para. 67.

¹⁶⁰ This date may be extended under particular circumstances set forth in 47 U.S.C. § 309(j)(14)(B) including for those markets where 15 percent or more households do not have access to either DTV-equipped receivers or multi-channel video.

Communications Act limits licenses for broadcast services to an eight-year term,¹⁶³ a licensee that commences new broadcast-type operations on or before January 1, 2006, will be required to seek renewal of its license at the end of the eight-year term following commencement of such broadcast operations.

73. **Discussion.** For the reasons stated in the *700 MHz First Report and Order*, we adopt the same license term for the Guard Bands that we adopted for the 747-762 MHz and 777-792 MHz bands. Licenses in the 746-747/ 776-777 MHz and 762-764/ 792-794 MHz bands will extend until January 1, 2015, which is eight years beyond the year 2006. We also adopt for Guard Band licenses the right to a renewal expectancy established in Section 27.14(b).¹⁶⁴ In the event that a Guard Band license is partitioned or disaggregated, as discussed below, any partitionee or disaggregatee is authorized to hold its license for the remainder of the original licensee's term, and the partitionee or disaggregatee may obtain a renewal expectancy on the same basis as other licensees in the band.¹⁶⁵ Guard Band licensees meeting the substantial service requirement discussed below will be deemed to have met this element of the renewal expectancy requirement.¹⁶⁶

5. Performance Requirements

74. **Background.** In the *NPRM*, we proposed to adopt the performance requirement in Section 27.14(a) of the Commission's rules for licensees in the 746-764 and 776-794 bands.¹⁶⁷ Section 27.14(a) requires licensees to provide "substantial service" to their service area within 10 years of being licensed.¹⁶⁸ A failure to meet this requirement results in forfeiture of the license and in the licensee's ineligibility to

¹⁶¹ The *700 MHz First Report and Order* erroneously identified this date as January 1, 2014. See In the Matter of 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, *Errata*, DA 00-450 (rel. March 1, 2000) ("*700 MHz Errata*").

¹⁶² Given the large geographic licensing areas, each with a number of incumbent broadcasters, we set a definite license term, rather than one dependent on the date on which incumbent broadcasters complete their digital television transition.

¹⁶³ See 47 U.S.C. § 307(c)(1).

¹⁶⁴ 47 C.F.R. § 27.14(b). To claim a renewal expectancy, a renewal applicant involved in a comparative renewal proceeding must demonstrate that it has provided "substantial service" and has substantially complied with applicable provisions of the Commission's rules, policies, and the Communications Act. See 47 C.F.R. § 27.14(b)(1)-(2). See also *700 MHz First Report and Order* at para. 68.

¹⁶⁵ See *700 MHz First Report and Order* at para. 68.

¹⁶⁶ See *700 MHz First Report and Order* at para. 68. Because the Guard Band Manager will be a broker of spectrum rather than a commercial service provider, the use of its licensed spectrum, and thus "substantial service," will be demonstrated not by the facilities it constructs or the percentage of the population that it serves, but by the number and types of spectrum user agreements into which it enters. Therefore, in establishing its right to a renewal expectancy, a Guard Band Manager's showing will not be required to include all aspects of subparagraphs (1)-(3) in Section 27.14(c) of our rules. Instead, a Guard Band Manager will be required to make a showing that includes the type of information contained in its annual report. See *infra* paragraphs 79-80.

¹⁶⁷ *NPRM* at para. 33.

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

regain the license. Although our proposal received general support, one commenter expressed concern that the continued existence of incumbent broadcasters may make it difficult for new licensees to comply with these performance requirements in some markets.¹⁶⁹ In the *700 MHz First Report and Order*, we amended the performance requirement in Section 27.14(a) as it relates to the 747-762 MHz and 777-792 MHz bands. We required licensees in the 30 megahertz spectrum block to provide substantial service to their service areas no later than January 1, 2015,¹⁷⁰ *i.e.*, eight years after the date as of which incumbent broadcasters are required to have relocated to other portions of the spectrum.¹⁷¹

75. **Discussion.** In establishing the Guard Band Manager as a new class of licensee, we will require Guard Band Managers to provide “substantial service” to their service areas no later than January 1, 2015, *i.e.*, the date upon which incumbent broadcasters are required to have relocated to other portions of the spectrum. We will not impose other build-out requirements or channel usage requirements. In lieu of these more stringent requirements, we are imposing a reporting requirement.

76. We conclude with respect to the 6 megahertz of spectrum to be licensed to Guard Band Managers that a substantial service requirement will be sufficient to act as a deterrent against anticompetitive warehousing and other abusive practices and to ensure prompt delivery of services to rural areas. We believe use of the auction mechanism to assign spectrum licenses to Guard Band Managers, in combination with competitive pressure from the availability of other bands for commercial and private wireless services, will create an incentive for the Guard Band Manager to lease spectrum in a way that will ensure its efficient and intensive use. Because licenses will be assigned initially through competitive bidding, they will be assigned efficiently to firms that have shown by their willingness to pay market value their intention and their ability to put the licenses to their highest valued uses. Moreover, the competitive environment in which Guard Band Managers will operate will provide adequate incentive to constrain the price of capacity and to ensure that Guard Band Managers coordinate use of their licensed spectrum in a way that will avoid or at least minimize interference. Competitive pressure will come from alternative sources of wireless capacity and/or services, including the existing frequency coordination mechanism for assigning spectrum reserved for private wireless services, and dispatch and other communications services provided by commercial wireless operators.¹⁷²

77. We believe that strict performance requirements may undermine efficient use of the spectrum. Guard Band Managers will have multiple users with a variety of different, and in many cases unique, coverage and capacity requirements. The variety of wireless services, together with the complexity of these different services, make it difficult if not impossible to design performance requirements that are fully compatible with the needs of all potential users of this spectrum. To ensure efficient use of the spectrum, the Guard Band Manager must have the flexibility to respond to varied users’ demand for spectrum capacity and to tailor spectrum to meet their specific service needs. Strict performance requirements would interfere with the Guard Band Manager’s ability to respond to market demand as required. Additionally, a flexible requirement is appropriate for this band, because incumbent TV stations operating in fairly large

¹⁶⁹ AirTouch Comments at 25-26.

¹⁷⁰ The *700 MHz First Report and Order* erroneously identified this date as January 1, 2014. See “*700 MHz Errata*”.

¹⁷¹ *700 MHz First Report and Order* at para. 70.

¹⁷² See Gregory L. Rosston & Jeffrey S. Steinberg, *Using Market-Based Spectrum Policy to Promote the Public Interest*, 50 Fed. Comm. L.J. 87, 94-95 (1997).

areas protected from interference may remain on their frequencies until 2006.¹⁷³

78. Guard Band Managers may avail themselves of either of the following “safe harbors” for the Guard Bands. A Guard Band Manager can satisfy the substantial service requirement by leasing the predominant¹⁷⁴ amount of its licensed spectrum in at least 50 percent of the geographic area covered by its license at the license-renewal mark. A Guard Band Manager can also satisfy the substantial service requirement by providing coverage to 50 percent of the population of the Guard Band Manager’s service area at the license-renewal mark. These “safe harbor” examples are intended to provide Guard Band Managers a degree of certainty regarding how to comply with the substantial service requirement. The requirement can be met in other ways, which will vary depending on the market and type of spectrum users served, and we will review licensees’ showings on a case-by-case basis.

79. We will, however, reserve the right to review our service rules and impose more stringent performance requirements on Guard Band Managers in the future if we receive complaints from prospective users or determine that reassessment is warranted because spectrum is being anticompetitively warehoused or is otherwise not being made available despite existing demand. To facilitate such review, we will adopt an annual reporting requirement that will obligate Guard Band Managers to provide the Commission with information about the manner in which their spectrum is being utilized. Guard Band Managers will be required to supply us with basic information about the total number of users and the number of those users that are affiliates of the Guard Band Manager; the amount of spectrum being used by the Guard Band Manager’s affiliates in any part of the licensed service area and the amount of spectrum being used pursuant to agreements with unaffiliated third parties; the general nature of its customers’ spectrum use; and the length of the term of each user agreement.¹⁷⁵ We also reserve the authority to subject Guard Band Managers to audits using in-house and contract resources.¹⁷⁶

80. We will make this information available to the public in order to enhance prospective users’ ability to determine the availability of frequencies in their service areas that will meet their needs. Making this information publicly available will promote efficient licensing of these channels, thereby resulting in more efficient use of the spectrum. For all the reasons noted above, we conclude that our imposition of a substantial service requirement and a reporting requirement for this spectrum, together with our overall competition and universal service policies, will constitute effective safeguards and performance requirements for Guard Band Manager licensing.

¹⁷³ See PCIA November 23, 1999 *Ex Parte* Filing at 4.

¹⁷⁴ For this purpose, we consider the predominant amount of the Guard Band Manager’s licensed spectrum to be 50.1 percent of that spectrum, measured in bandwidth. See *supra* paragraph 59.

¹⁷⁵ Congress has stipulated that OMB approval pursuant to the Paperwork Reduction Act of 1995, 44 U.S.C. § 3507, is not required for this information collection. See *Consolidated Appropriations*, Appendix E, Section 213(a)(4)(B). See also 145 Cong. Rec. at H12493, Nov. 17, 1999. To minimize the burden placed on Guard Band Managers, we anticipate collecting this information electronically, through our Universal Licensing System. The specific information that Guard Band Managers will provide and the procedures that Guard Band Managers will follow in making this annual report will be announced in a subsequent Public Notice to be issued by the Wireless Telecommunications Bureau.

¹⁷⁶ See, e.g., 47 C.F.R. § 24.709(d).

6. Disaggregation and Partitioning of Licenses

81. **Background.** In the *NPRM*, we proposed to permit licensees in the 746-764 MHz and 776-794 MHz bands to partition their service areas and to disaggregate their spectrum. With respect to the 747-762 MHz and 777-792 MHz bands, in the *700 MHz First Report and Order* we decided to permit geographic partitioning of any service area defined by the partitioner and partitionee, spectrum disaggregation without restriction on the amount of spectrum to be disaggregated, and combined partitioning and disaggregation.¹⁷⁷

82. **Discussion.** We will allow Guard Band Managers to partition their service areas and to disaggregate their spectrum to any entity that would otherwise be eligible to hold an authorization as a Guard Band Manager for this spectrum. As we concluded with respect to the 30 megahertz spectrum block, geographic partitioning and spectrum disaggregation can result in efficient spectrum use and improve smaller entities' ability to overcome entry barriers through the creation of smaller licenses that require less capital, and will thereby facilitate greater participation by rural telephone companies and other small entities, including those owned by minorities and women.¹⁷⁸ Affording Guard Band Managers the same flexibility as other licensees in the wireless radio services will enable them to better respond to market demand, and more efficiently manage their spectrum, which, in turn, will result in more efficient use of the spectrum by end users.

83. Licensees seeking to partition and disaggregate are required to obtain Commission authorization for partial assignment of their license.¹⁷⁹ In reviewing requests for approval of partitioning and disaggregation, we will consider the impact that such partitioning or disaggregation would have on public safety operations in the adjacent 700 MHz bands. Additionally, pursuant to Section 27.15, the partitioning licensee must include with its request a description of the partitioned service area and calculations of the population of the partitioned service area and the licensed geographic service area,¹⁸⁰ and will be subject to the provisions against unjust enrichment set forth in Section 27.15(c).¹⁸¹

84. As we provided for licensees in the 747-762 MHz and 777-792 MHz bands,¹⁸² we will allow partitioning Guard Band Managers to choose between two options for satisfying the performance requirement in Section 27.14 of our rules.¹⁸³ Under the first option, the partitioner and partitionee would each certify that it will independently satisfy the substantial service requirement for its respective

¹⁷⁷ *700 MHz First Report and Order* at para. 75. See *Part 27 Report and Order* at 10836-37, 10839, paras. 97-99, 102, citing *Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21847-48, paras. 23-24.

¹⁷⁸ See *Geographic Partitioning and Spectrum Disaggregation by Commercial Mobile Radio Services Licensees; Implementation of Section 257 of the Communications Act – Elimination of Market Entry Barriers*, WT Docket No. 96-148, *Report and Order and Further Notice of Proposed Rulemaking*, 11 FCC Rcd 21831, 21843-44, paras. 13-17 (1996) (“*Partitioning and Disaggregation Report and Order*”).

¹⁷⁹ See 47 C.F.R. § 27.15(a).

¹⁸⁰ 47 C.F.R. § 27.15(b)(1).

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

¹⁸² See *700 MHz First Report and Order* at paras. 76-78.

¹⁸³ See 47 C.F.R. § 27.15(e)(1). See also *Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21857, para. 42.

partitioned area. If a Guard Band Manager fails to meet its substantial service requirement during the relevant license term, the non-performing Guard Band Manager's authorization will be subject to cancellation at the end of the license term. Under the second option, the partitioner can certify that it has met or will meet the substantial service requirement for the entire market. If the partitioner fails to meet the substantial service standard during the relevant license term, only its license will be subject to cancellation at the end of the license term; the partitionee's license will not be affected by the failure. The public interest is advanced by permitting this flexibility, because it will increase the viability and value of the partitioned licenses, while preventing circumvention of our performance requirement.¹⁸⁴

85. In addition, we will allow parties to disaggregation agreements to choose between two options for satisfying the performance requirement.¹⁸⁵ Under the first option, the disaggregator and disaggregatee would certify that they will share responsibility for meeting the performance requirement for the entire geographic service area. If the parties choose this option, both parties' jointly will be required to meet the substantial service requirement at the end of the relevant license term, and both Guard Band Manager licenses will be subject to cancellation, if the requirement is not met. The second option allows the parties to agree that either the disaggregator or the disaggregatee will be responsible for meeting the substantial service requirement for the geographic service area. If the parties choose this option, and the Guard Band Manager responsible for meeting the performance requirement fails to do so, only the license of the non-performing Guard Band Manager will be subject to cancellation. As with partitioned licenses, providing these options preserves the public interest in developing the spectrum to the same degree as that required had the disaggregation (or partitioning) not occurred.¹⁸⁶

7. Public Notice of Initial Applications; Petitions to Deny

86. **Background.** Section 309(b) and Section 309(c) of the Communications Act require public notice for initial applications for authorizations in, *inter alia*, the broadcasting or common carrier services, and substantial amendments thereof.¹⁸⁷ These requirements provide that no such application shall be granted earlier than 30 days following the issuance of public notice by the Commission, and that the Commission may not require petitions to deny such applications to be filed earlier than 30 days following the public notice. Section 309(b)(2)(F) also grants the Commission authority to establish a public notice requirement and a period for petitions to deny for other authorizations not in the broadcasting or common carrier services.¹⁸⁸ However, the administrative procedures for spectrum auctions adopted in Section 3008 of the Balanced Budget Act of 1997¹⁸⁹ and Consolidated Appropriations Act¹⁹⁰ permit the Commission to shorten notice periods in the auction context to five days for petitions to deny and seven days for public notice, notwithstanding the provisions of Section 309(b) of the Communications Act. In the *Part 1 Third*

¹⁸⁴ See *Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21857, para. 43.

¹⁸⁵ See 47 C.F.R. § 27.15(e)(2). See also *Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21865, paras. 62-63.

¹⁸⁶ See *Partitioning and Disaggregation Report and Order*, 11 FCC Rcd at 21864-65, para. 61.

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

¹⁸⁸ 47 U.S.C. §§ 309(b)(2)(F).

¹⁸⁹ 47 U.S.C. § 309(j) nt. 3.

¹⁹⁰ See *Consolidated Appropriations*, Appendix E, § 213. See also 145 Cong. Rec. H12493-94 (Nov. 17, 1999).

Report and Order,¹⁹¹ the Commission exercised this statutory authority by amending Section 1.2108(b) and Section 1.2108(c) of the Commission's Rules¹⁹² to provide for a five-day period for filing petitions to deny and a seven-day public notice period for all auctionable services.

87. We received no comments on our proposal to adopt these deadlines for services in the 746-764 MHz and 776-794 MHz spectrum bands. In the *700 MHz First Report and Order*, we adopted for this spectrum the seven-day notice requirement for initial applications and the five-day deadline for petitions to deny.¹⁹³

88. **Discussion.** Although Guard Band Managers will not be broadcast or common carrier licensees, we will exercise the authority granted us in Section 309(b)(2)(F) and adopt a seven-day notice requirement for initial applications for Guard Band Manager licenses and a five-day period for petitions to deny such applications.¹⁹⁴

8. Foreign Ownership Restrictions

89. **Background.** In the *NPRM*, we proposed means for implementing the foreign ownership provisions set forth in Sections 310(a) and 310(b) of the Communications Act.¹⁹⁵ Section 310(a) prohibits any foreign government or representative from holding a station license. Section 310(b) prohibits certain defined foreign ownership interests in broadcast, common carrier, aeronautical en route or aeronautical fixed radio station licenses. One comment, supporting our proposal, was received on this portion of the *NPRM*.¹⁹⁶ In the *700 MHz First Report and Order* we concluded that Section 27.12 of the Commission's Rules, which implements Section 310 of the Act,¹⁹⁷ should apply to applicants for licenses in the 747-762 MHz and 777-792 MHz bands.¹⁹⁸ We determined that applicants requesting authorization for common carrier services will be subject to both Section 310(a) and Section 310(b). Nonbroadcast applicants requesting authorization only for non-common carrier services will be subject to Section 310(a) but not to the additional prohibitions of Section 310(b).¹⁹⁹ To enable the Commission to monitor effectively compliance with the alien ownership restrictions, we further determined that both common carriers and non-common carriers authorized in the 747-762 MHz and 777-792 MHz bands will be required to file

¹⁹¹ Amendment of Part 1 of the Commission's Rules – Competitive Bidding Procedures, WT Docket No. 97-82, Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 4660-4685 MHz, ET Docket No. 94-32, *Third Report and Order and Second Further Notice of Proposed Rulemaking*, 13 FCC Rcd 374, 431 (para. 98) (1997), *recon. pending*.

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

¹⁹³ We also determined that applicants filing for both common carrier and non-common carrier authorizations in a single license and wishing to make subsequent status changes will also be subject to the seven-day public notice requirement. See *700 MHz First Report and Order* at para. 80.

¹⁹⁴ See 47 U.S.C. § 309(b)(2)(F).

¹⁹⁵ 47 U.S.C. §§ 310(a), 310(b). See *NPRM* at paras. 29-31.

¹⁹⁶ See AirTouch Comments at 25.

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

¹⁹⁸ *700 MHz First Report and Order* at para. 63.

¹⁹⁹ *Id.* at para. 63.

changes in foreign ownership information to the extent required by Part 27 of our Rules.²⁰⁰

90. **Discussion.** We have determined that Section 27.12 of the Commission's Rules, should apply to applicants for Guard Band licenses. Because the Guard Band Manager is a non-common carrier, an applicant requesting authorization for a Guard Band Manager license will be subject to Section 310(a) but not to the additional prohibitions of Section 310(b). With respect to our alien ownership reporting requirements, we will require applicants for the Guard Band spectrum to file changes in foreign ownership information to the extent required by Part 27 of our Rules.

C. Operating Rules

91. In the *700 MHz First Report and Order*, we determined to subject licensees in the 747-762 MHz and 777-792 MHz bands to the Part 27 rules that govern operations, modified to accommodate the particular circumstances of the 700 MHz proceeding. We did not solicit comment on these operating rules in the *Public Notice* issued on January 7, 2000, seeking additional comments with respect to the Guard Bands. The following discussion focuses on operating rules for the 746-747 and 776-777 MHz and the 762-764 and 792-794 MHz Guard Bands.²⁰¹ Based on the comments we received in response to the *NPRM* and the analysis set forth in the *700 MHz First Report and Order* and summarized below, we believe that these rules are also appropriate for the Guard Bands.

1. Applicability of General Common Carrier Obligations; Forbearance

92. **Background.** In the *700 MHz First Report and Order*, we reviewed our prior decisions respecting forbearance from the requirements of the Communications Act and interpreted the potential effect of these decisions on fixed common carrier services provided on the 747-762 MHz and 777-792 MHz bands.²⁰² Pursuant to our prior exercise of authority under Section 332(c)(1)(A) to forbear for CMRS from certain of the obligations imposed on common carriers by Title II of the Communications Act, we determined that common carriers classified as CMRS, including those providing mobile services in the 747-762 MHz and 777-792 MHz bands, will not be required to file contracts of service, seek authority for interlocking directors,²⁰³ or submit applications for new facilities or discontinuance of existing facilities, and are prohibited from filing tariffs for interstate service to their customers or for interstate access service. We also determined that CMRS providers on this spectrum will be required to support service provider LNP by November 24, 2002, but will not be required to file tariffs for most international services or be subject to most of Section 226 of the Act, relating to telephone operator services. In addition, we determined that CMRS providers in the 747-762 and 777-792 bands will be subject to the Commission's complete detariffing of interstate, interexchange services offered by non-dominant interexchange carriers, to our elimination of Part 41 requirements applicable to franks, and to our elimination of the prior approval

²⁰⁰ *Id.* at para. 64.

²⁰¹ The discussion that follows does not apply to Guard Band Managers themselves, because they are not common carriers, but to entities operating in the Guard Bands who use the Guard Band Manager's spectrum to provide common carrier services.

²⁰² See *700 MHz Report and Order* at paras. 82-88.

²⁰³ We recently acted to forbear from requiring all common carriers to seek authority for interlocking directorates. Thus, common carriers that offer fixed services on the 746-764 MHz and 776-794 MHz bands are also exempt from this requirement. See 1998 Biennial Regulatory Review of Part 62 of the Commission's Rules, CC Docket No. 98-195, *Report and Order*, FCC 99-163, rel. Jul. 16, 1999.

requirements for most *pro forma* transfer applications involving telecommunications carriers. We also addressed the requirements of Section 214(a) as they apply to licensees in the 747-762 MHz and 777-792 MHz bands that voluntarily discontinue, reduce, or impair service to a community or part of a community and adopted, in Section 27.66, the automatic grant provisions in amended Section 63.71 of the Commission's Rules,²⁰⁴ so as to ensure comparable regulatory treatment between wireline providers and fixed wireless providers operating in the 30 megahertz band.²⁰⁵

93. **Discussion.** We did not solicit comment on the forbearance issue in the *Public Notice* issued on January 7, 2000. Although we did solicit comments on forbearance in the *NPRM*, we received none. Based on our conclusions set forth in the *700 MHz First Report and Order*, and on our assessment that the decisions adopted there are appropriate for application to operations in the Guard Bands, we are adopting the forbearance measures discussed in the *700 MHz First Report and Order* with respect to tariff and contract filings, interlocking directors, new and discontinued facilities, service provider LNP, Section 226, franks, and *pro forma* transfer applications.

94. We also adopt the provisions of Section 27.66 for operations on the Guard Bands. Section 27.66 tracks the provisions of Section 63.71, requiring a common carrier voluntarily discontinuing, reducing or impairing service to provide notice to affected customers and the Commission and providing for the automatic grant of a fixed service common carrier's application for discontinuance after 31 days.²⁰⁶ In the case of Guard Band operations, this notice to the Commission must be provided by the Guard Band Manager. If a non-common carrier voluntarily discontinues, reduces, or impairs service, Section 27.66 requires the carrier to give written notice to the Commission within seven days. In the case of Guard Band operations, this notice to the Commission, as well, must be provided by the Guard Band Manager. A mere change in common carrier or non-common carrier status does not constitute a "discontinuance." If fixed service common carrier operations are involuntarily discontinued, reduced, or impaired for a period exceeding 48 hours, the Guard Band Manager must promptly notify the Commission, in writing, of the reasons for the discontinuance, reduction, or impairment of service, including a statement indicating when normal service is to be resumed. When normal service is resumed, the Guard Band Manager must promptly notify the Commission. As we indicated in the *700 MHz First Report and Order*, we continue to invite suggestions on ways in which we can alleviate or streamline regulations that would otherwise be applicable to fixed services provided on this spectrum.

2. Equal Employment Opportunity

95. **Background.** In the *700 MHz First Report and Order*, we noted that neither Part 27 nor Parts 24 (PCS) and Part 26 (General Wireless Communications Service) include an explicit Equal Employment Opportunity (EEO) provision, but that specific EEO provisions exist in other parts of our Rules. We concluded, however, that all commercial mobile radio service (CMRS) providers are subject to the Commission's EEO requirements,²⁰⁷ citing, in support, Parts 22 and 90 of our Rules,²⁰⁸ and that

²⁰⁴ 47 C.F.R. § 63.71.

²⁰⁵ See Section 27.66 of the Commission's Rules, 47 C.F.R. § 27.66.

²⁰⁶ Implementation of Section 402(B)(2)(A) of the Telecommunications Act of 1996, Petition for Forbearance of the Independent Telephone & Telecommunications Alliance, CC Docket No. 71-11, AAD File No. 98-43, *Report and Order*, FCC 99-104, rel. Jun 30, 1999.

²⁰⁷ See Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket 93-252, *Third Report and Order*, 9 FCC Rcd 7988, 8097-8100, paras 231-237 (1994) ("*CMRS Third Report and Order*").

commercial mobile service providers are generally subject to the Commission's common carrier EEO obligations.²⁰⁹ We declined to include specific EEO provisions in Part 27 for application to the 30 megahertz block.

96. **Discussion.** Because the Commission's EEO Rules are service-specific, a Guard Band user's EEO requirements will depend on the type of service it chooses to provide. In adopting rules for the 30 megahertz block, we allowed a licensee to self-characterize its regulatory status in its Form 601, consistent with the flexible approach that the Commission took in the *DBS NPRM*.²¹⁰ FCC Form 601, as amended, identifies five regulatory statuses: (a) common carrier, (b) non-common carrier, (c) private, internal communications, (d) broadcast, and (e) Band Manager. However, Guard Band Manager users do not file FCC Form 601, because they are not licensees. Nevertheless, these operators will be subject to such EEO requirements as the nature of the services they provide dictates.

D. Other Technical Rules

97. **Background.** We have previously discussed the band plan and our technical and operational rules for the Guard Bands.²¹¹ We now address other technical rules applicable to the Guard Bands. As we concluded in the *700 MHz First Report and Order* for the 747-762 MHz and 777-792 MHz bands, all users of the Guard Bands, including entities who acquire their licenses through partitioning or disaggregation, will be subject to the general provisions of Part 27 relating to equipment authorization, frequency stability, antenna structures and air navigation, international coordination, environmental requirements, quiet zones, and disturbance of AM broadcast antenna patterns.²¹² In addition, we intend to apply to the Guard Bands the same technical rules for in-band interference control, RF safety and power limits, and television channels 65 and 67 that we applied to the 30 megahertz spectrum in the *700 MHz First Report and Order*. We did not solicit comment on these technical standards in the *Public Notice* issued on January 7, 2000, seeking additional comments with respect to the Guard Bands. Based on the comments we received in response to the *NPRM* and the analysis set forth in the *700 MHz First Report and Order* and summarized below, we believe that these standards are also appropriate for the Guard Bands.

98. **Discussion. In-Band Interference Control.** In the *700 MHz First Report and Order* we agreed with commenters that the field strength limit approach should be used to control co-channel

²⁰⁸ Sections 22.321, 90.168 of the Commission's Rules, 47 C.F.R. §§ 22.321, 90.168.

²⁰⁹ See 47 U.S.C. 332(c)(1)(A) (stating in relevant part "[a] person engaged in the provision of a service that is a commercial mobile service shall . . . be treated as a common carrier for purposes of this Act"). See also 47 C.F.R. § 1.815 (stating in relevant part "[e]ach common carrier licensee or permittee with 16 or more full time employees shall file with the Commission . . . an annual employment report").

²¹⁰ The Commission in the *DBS NPRM* proposed that DBS (direct broadcast satellite) service licensees have the choice of providing service on a broadcast, common carrier, or non-broadcast, non-common carrier basis with an applicant's self-characterization determinant of the applicable EEO rules. See Policies and Rules for the Direct Broadcast Satellite Service, IB Docket 98-21, *Notice of Proposed Rulemaking*, 13 FCC Rcd 6907, 6924-6925 (1998) ("*DBS NPRM*").

²¹¹ See Section III.A.1. "Band Plan: Protecting Public Safety Operations," *supra*.

²¹² See Sections 27.51, 27.54, 27.56, 27.57, 27.59, 27.61, 27.63 of the Commission's Rules, 47 C.F.R. §§ 27.51, 27.54, 27.56, 27.57, 27.59, 27.61, 27.63. See also *700 MHz First Report and Order* at para. 2.

interference.²¹³ We concluded that such an approach provides established, objective criteria for controlling in-band interference, and gives users the ability to construct and operate facilities in boundary areas so long as the limit is met, whereas a coordination approach could impose unnecessary coordination costs for facilities that are not likely to cause interference and could lead to possible anti-competitive activities. Because the types of services that will be provided in the 700 MHz band are likely to be similar to the types of services permitted in the 800 MHz EA-based and 900 MHz MTA-based bands,²¹⁴ in which we employ a 40 dBu/m field strength at the geographic border, and because of its proximity to these bands, we concluded in the *700 MHz First Report and Order* that the appropriate field strength for the control of in-band interference in the 30 megahertz spectrum is 40 dBu/m.²¹⁵ We adopt that standard here for the Guard Bands, as well. We believe that use of the field strength procedure and this criterion for the Guard Bands will satisfy the requirement in Section 337(d)(1) that the Commission establish “interference limits at the boundaries of the spectrum block and service area.”²¹⁶ However, as with the 30 megahertz spectrum, we will permit users in adjoining areas to agree to alternate field strengths at their common border to provide users increased flexibility in implementing their systems without increasing the risk of harmful interference.

99. *RF Safety/Power Limits.* Section 27.52 of the Commission's Rules²¹⁷ subjects licensees and manufacturers to the RF radiation exposure requirements specified in Sections 1.1307(b), 2.1091, and 2.1093 of the Commission's Rules.²¹⁸ In the 700 MHz First Report and Order, we adopted a threshold of 1000 w ERP for categorical exclusion from routine evaluation for RF exposure for base and fixed stations.²¹⁹ We adopt this threshold for base and fixed stations in the Guard Bands, as well. As with the 30 megahertz block, the threshold for routine evaluation of mobile devices (as defined in Section 2.1091 of our Rules) for RF safety purposes will be 1.5 w or greater, in conformance with Section 2.1091. For portable devices in the Guard Bands (as defined in Section 2.1093 of our Rules), we adopt a maximum power limit of 3 w ERP with the provision that these devices be evaluated for RF exposure in compliance

²¹³ See *700 MHz First Report and Order* at paras. 96-97. See also AirTouch Comments at 29; SBC Comments at 4-5.

²¹⁴ See Sections 90.7, 90.689, and 90.671, 47 C.F.R. §§ 90.7, 90.689, and 90.671. See also Section 90.419(f), which permits SMR licensees to operate fixed services on a co-primary basis with their mobile operations. 47 C.F.R. § 90.419(f).

²¹⁵ See *700 MHz First Report and Order* at para. 97. The predicted 40 dBu/v field strength shall be calculated using Figure 10 of Section 73.699 of this chapter, with a correction factor for antenna height differential of -9 dB. 47 C.F.R. § 73.699, Fig. 10.

²¹⁶ 47 U.S.C. § 337(d)(1).

²¹⁷ 47 C.F.R. § 27.52.

²¹⁸ 47 C.F.R. §§ 1.1307(b), 2.1091, 2.1093. These rules identify services and devices for which an environmental evaluation must be performed. For fixed and base stations, criteria for requiring routine evaluation are given in Table 1 of Section 1.1307(b). Criteria for evaluation of mobile and portable devices are specified in Sections 2.1091 and 2.1093, respectively. Note that, in the case of fixed and base stations in this service, 1,000 watts ERP can also be expressed as the equivalent 1,640 watts EIRP. The RF radiation exposure limits are set forth in 47 C.F.R. §§ 1.1310, 2.1091, and 2.1093, as modified in Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, ET Docket No. 93-62, *Report and Order*, 11 FCC Rcd 15123 (1996); *First Memorandum Opinion and Order*, 11 FCC Rcd 17512 (1997); *Second Memorandum Opinion and Order*, 12 FCC Rcd 13494 (1997) (*RF Guidelines Second Reconsideration Order*).

²¹⁹ *700 MHz First Report and Order* at para. 111. SBC supports this approach. SBC Comments at 5.

with Section 2.1093. As we have previously stated, we are providing guidance on acceptable methods of evaluating compliance with the Commission's RF exposure limits in OET Bulletin No. 65, which has replaced OST Bulletin No. 65.²²⁰

100. As we did for the 30 megahertz spectrum, we are adopting the following power limits for the Guard Bands: (1) for base stations and fixed stations operating in the 746-747 MHz and 762-764 MHz bands, an ERP no greater than 1,000 watts and an antenna height above average terrain (HAAT) no greater than 305 m;²²¹ (2) for mobile, fixed, and control stations operating in the 776-777 MHz and 792-794 MHz bands, an ERP no greater than 30 watts; and (3) for portable stations operating in the 776-777 MHz and 792-794 MHz bands, an ERP no greater than 3 watts. The 1000 w ERP power limit for base and fixed stations should enable satisfactory coverage for commercial systems operating in this band. The 30 w ERP power limit for mobile, fixed, and control stations is the power limit adopted for mobile and control station operations in the 700 MHz public safety band. The 3 w ERP power limit for portable stations is consistent with the power limit adopted for portables in the 700 MHz public safety band.

101. *Special Considerations for Use of Channels 65 and 67.* The second harmonic transmissions²²² of Guard Band services that will be operating on TV channels 65 and 67 fall within a band used for radionavigation in the Global Navigation Satellite System (GNSS), which includes the Global Positioning System (GPS) at 1563.42-1587.42 MHz.²²³ In the *700 MHz First Report and Order* we committed to protecting this system and to ensuring that equipment operating in the 700 MHz band does not cause radio interference to the GNSS. Although NTIA supported the standard we proposed in the *NPRM*, other commenters argued that our proposed standards were either too restrictive to accommodate commercial development of the band or too lenient to protect GNSS.²²⁴ For the same reasons articulated in

²²⁰ OET Bulletin No. 65 (Edition 97-01) was issued on August 25, 1997, and is available for downloading at the FCC Web Site: www.fcc.gov/oet/rfsafety. Copies of OET Bulletin No. 65 also may be obtained by calling the FCC RF Safety Line at (202) 418-2464.

²²¹ Antenna heights greater than 305 m HAAT are permitted in accordance with Table 1 in Section 27.50 of our Rules, as amended. 47 C.F.R. § 27.50.

²²² Radio transmitters produce energy not only on the desired frequency (such as 793 MHz) but also lesser amounts of energy on multiples of the desired frequency, known as harmonics. In this example, the second harmonic (twice the desired frequency) would be 1586 MHz. Although most of the power generated is on the desired frequency, very sensitive receivers can detect the smaller amounts of power generated on the harmonic frequencies.

²²³ GNSS, as presently envisioned, will consist of the GPS and GLONASS systems that provide radionavigation satellite services (RNSS) worldwide. The GPS is the United States component of the GNSS. It uses the lower portion of the Radionavigation-Satellite Service (space-to-Earth) allocation from 1559-1610 MHz on a primary basis and is maintained by the United States Department of Defense. The other component of the GNSS is GLONASS, the Russian Federation Global Orbiting Navigation Satellite System, which will use the 1598-1605 MHz portion of that allocation (*i.e.*, the second harmonic frequencies of TV channels 68 and 69) when the system reaches its final frequency configuration after 2005.

²²⁴ AirTouch argues generally that the proposed OOB limits could negatively affect the production of portable units and the consequent availability of the commercial 700 MHz spectrum for public use. AirTouch Comments at 30. On the other hand, the U.S. GPS Industry Council (USGPS) asserts that the cumulative effect from all services in the band operating at proposed emission levels of -70/80 dBW/MHz would be devastating for critical safety-of-life GPS applications and that, absent case-by-case independent studies, the only appropriate wideband out-of-band emission threshold limit would be -100 dBW/MHz. USGPS Comments at 4; USGPS Reply at 8.

the *700 MHz First Report and Order* with respect to the 30 megahertz spectrum,²²⁵ we believe that the following OOB limits provide the appropriate balance between these two, opposing positions and adopt them here for all spurious emissions, including harmonics, that fall within the 1559-1610 frequency range, from equipment operating in the 746-747 MHz, 762-764 MHz, 776-777 MHz and 792-794 MHz Guard Bands: (1) for wideband emissions, -70 dBW/MHz equivalent isotropically radiated power (EIRP); and (2) for discrete emissions of less than 700 Hz bandwidth, an absolute EIRP limit of -80 dBW. Outside of emissions into the 1559-1610 MHz RNSS band, the OOB standards adopted in Section III.A.1 will apply.

E. Competitive Bidding

1. Statutory Requirements

102. **Background.** In the *NPRM*, we sought comment on whether the auction of the 746-764 MHz and 776-794 MHz bands may present a suitable context for combinatorial bidding.²²⁶ Section 3002 of the Balanced Budget Act directed the Commission to “provide for the design and conduct (for purposes of testing) of competitive bidding using a contingent combinatorial bidding system that permits prospective bidders to bid on combinations or groups of licenses in a single bid and to enter multiple alternative bids within a single bidding round.”²²⁷ In addition, we sought comment on whether our statutory obligations prohibited public safety entities from participating in the auction of licenses for this spectrum.²²⁸ In the *700 MHz First Report and Order*, we concluded with respect to the 747-762 MHz and 777-792 MHz bands that we will not use combinatorial bidding procedures in light of the fact that this complex and untested auction design is still in development.²²⁹ We also decided that no entities would be barred from participating in the auction of licenses in the 747-762 MHz and 777-792 MHz bands.²³⁰

103. **Discussion.** In light of the accelerated schedule for auction of this spectrum,²³¹ we continue to believe that we should not use combinatorial bidding for the auction of licenses in the 700 MHz bands. Thus, for the reasons we stated with respect to the 747-762 MHz and 777-792 MHz bands, we will not use combinatorial bidding procedures for the 762-764 MHz/ 792-794 MHz band and the 746-747 MHz/ 776-777 MHz band. Consistent with our decision regarding the 747-762 MHz and 777-792 MHz bands, we will not prohibit any entities from participating in the auction of licenses for the Guard Bands.

²²⁵ *700 MHz First Report and Order* at paras. 115-120.

²²⁶ *NPRM* at para. 82.

²²⁷ Codified at 47 U.S.C. § 309(j)(3).

²²⁸ *NPRM* at para. 81.

²²⁹ *700 MHz First Report and Order* at para. 124.

²³⁰ *Id.* at para. 49. Paragraph 135 of the *700 MHz First Report and Order* states that public safety entities as defined in Section 337(f) of the Act will not be permitted to participate in the auction of licenses for this spectrum. This statement, which is inconsistent with our decision announced in paragraph 49 of the *700 MHz First Report and Order* regarding open eligibility, is in error.

²³¹ See *supra* paragraph 3.

2. Incorporation by Reference of Part 1 Standardized Auction Rules

104. **Background.** In the *NPRM*, we proposed to conduct the auction for initial licenses in the 746-764 MHz and 776-794 MHz bands in conformity with the general competitive bidding rules set forth in Part 1, Subpart Q, of the Commission's Rules, and substantially consistent with the bidding procedures that have been employed in previous auctions.²³² Specifically, we proposed to employ the Part 1 rules governing designated entities, application issues, payment issues, competitive bidding design, procedure and timing issues, and collusion issues.²³³ We further stated that these rules would be subject to any modifications that the Commission may adopt in the Part 1 proceeding. We sought comment on whether any of our Part 1 rules would be inappropriate in an auction of licenses for the 746-764 MHz and 776-794 MHz bands.²³⁴ No commenters oppose the use of the Part 1 standardized auction rules. In the *700 MHz First Report and Order*, we decided to use the competitive bidding procedures contained in Subpart Q of Part 1 of the Commission's Rules for the 747-762 MHz and 777-792 MHz bands, including any amendments adopted in the ongoing Part 1 proceeding.²³⁵

105. **Discussion.** Consistent with our decision in the *700 MHz First Report and Order*, we will also use the competitive bidding procedures contained in Subpart Q of Part 1 of the Commission's Rules for the Guard Bands, including any amendments adopted in the ongoing Part 1 proceeding.²³⁶ However, to facilitate the Commission's compliance with its statutory obligation to deposit the proceeds from the auction of the 30 megahertz spectrum block as well as the Guard Bands by September 30, 2000, we delegate to the Wireless Telecommunications Bureau authority to suspend our payment deadlines in Sections 1.2107(b) and 1.2109(a) of the Commission's Rules²³⁷ and require that winning bidders on all licenses in the 700 MHz bands pay the full balance of their winning bids upon submission of their long-form applications pursuant to Section 1.2107(c) of our rules.²³⁸

3. Small Business Definitions

106. **Background.** In the *NPRM*, we proposed to define a small business as any entity with average annual gross revenues for the three preceding years not in excess of \$40 million, and a very small business as an entity with average annual gross revenues for the three preceding years not in excess of \$15 million, for the 746-764 MHz and 776-794 MHz bands.²³⁹ We sought comment on these definitions as

²³² *NPRM* at para. 83.

²³³ *Id.*

²³⁴ *Id.*

²³⁵ *700 MHz First Report and Order* at para. 129.

²³⁶ The most recent comprehensive order in this proceeding was the *Third Report and Order and Second Further Notice of Proposed Rule Making*. See Amendment of Part 1 of the Commission's Rules – Competitive Bidding, WT Docket No. 97-82, Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, 4660-4685 MHz, ET Docket No. 94-32, *Third Report and Order and Second Further Notice of Proposed Rule Making*, 13 FCC Rcd 374 (1997) (“*Part 1 Third Report and Order*” and “*Part 1 Second Further Notice*”), recon. pending.

²³⁷ 47 C.F.R. §§ 1.2107(b), 1.2109(a).

²³⁸ 47 C.F.R. §§ 1.2107(c).

²³⁹ *NPRM* at paras. 85-86.

they relate to the size of the geographic area to be covered and the spectrum allocated to each license.²⁴⁰ We also sought comment on whether the proposed designated entity provisions would be sufficient to promote participation by businesses owned by minorities and by women, and participation by rural telephone companies.²⁴¹

107. In the *700 MHz First Report and Order* we adopted our proposal to define a small business as an entity with average annual gross revenues for the preceding three years not exceeding \$40 million, and a very small business as an entity with average annual gross revenues for the preceding three years not exceeding \$15 million.²⁴² We adopted a 15 percent bidding credit for small businesses and a 25 percent bidding credit for very small businesses, consistent with the levels adopted in the Part 1 proceeding,²⁴³ and we decided not to adopt special preferences for entities owned by minorities or women.²⁴⁴ We also concluded that in calculating gross revenues for purposes of small business eligibility, we will attribute the gross revenues of the applicant, its controlling interests and its affiliates.²⁴⁵

108. **Discussion.** We will adopt for the Guard Bands the same definitions of small and very small businesses that we adopted for the 747-762 MHz and 777-792 MHz bands.²⁴⁶ We believe these two definitions will provide various types of entities seeking to become Guard Band Managers with opportunities to participate in the auction of licenses for this spectrum. In calculating gross revenues for purposes of small business eligibility, we will attribute the gross revenues of the applicant, its controlling interests and its affiliates. As noted in the *700 MHz First Report and Order*, this approach is consistent with our proposal in the *Part 1 Second Further Notice*,²⁴⁷ and is similar to the attribution rules we have employed for the recent LMDS, 800 MHz SMR, and LMS auction proceedings.²⁴⁸

²⁴⁰ *Id.* at para. 87.

²⁴¹ *Id.*

²⁴² *700 MHz First Report and Order* at para. 133.

²⁴³ *Id.* at para. 134. See *Part 1 Third Report and Order*, 13 FCC Rcd at 403-04, paras. 47-48.

²⁴⁴ *700 MHz First Report and Order* at para. 136.

²⁴⁵ *Id.*

²⁴⁶ For the 746-764 MHz and 776-794 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. See *Consolidated Appropriations*, Appendix E, Section 213(a)(4)(B). See also 145 Cong. Rec. at H12493, Nov. 17, 1999.

²⁴⁷ See *Part 1 Second Further Notice*, 13 FCC Rcd at 477-78, paras. 185-87.

²⁴⁸ See Amendment of 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, CC Docket No. 92-297, *Second Report and Order, Order on Reconsideration, and Fifth Notice of Proposed Rulemaking*, 12 FCC Rcd 12545, 12692-93 (1997); Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, PR Docket No. 93-144, *Second Report and Order*, 12 FCC Rcd 19079, 19169 (1997); Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, PR Docket No. 93-61, *Second Report and Order*, 13 FCC Rcd 15182, 15194 (1997).

109. For the auction of licenses for the Guard Bands we will also adopt tiered bidding credits for small and very small businesses, consistent with the levels adopted in the Part 1 proceeding.²⁴⁹ Accordingly, small businesses will receive a 15 percent bidding credit.²⁵⁰ Very small businesses will receive a 25 percent bidding credit.²⁵¹ As noted in the *700 MHz First Report and Order*, we believe that this approach will provide adequate opportunities for small businesses of varying sizes to participate in spectrum auctions.²⁵²

110. We will not adopt special preferences for entities owned by minorities or women.²⁵³ As we concluded in the *700 MHz First Report and Order*, in the absence of quantifiable evidence or data to support race- or gender-based auction provisions, we do not have an adequate record to support such special provisions at this time under the current standards of judicial review.²⁵⁴ We believe the bidding credits we adopt here for small businesses will further Congress's objective of disseminating licenses among a wide variety of applicants because many minority- and women-owned entities, as well as rural telephone companies, are small businesses and will therefore qualify for these special provisions. Finally, we decline to adopt KM's suggestion that we provide bidding credits to LPTV licensees that have been or will be displaced by a DTV station, or APCO's suggestion that we establish "auction credits" similar to small business bidding credits for state and local governments seeking spectrum for public safety communications.²⁵⁵ Such entities have not established a record that they need bidding credits in order to be able to compete in the auction.

IV. PROTECTION OF TELEVISION SERVICES

111. **Background.** In the *DTV Sixth Report and Order*,²⁵⁶ we stated that all analog TV and DTV operations in the 746-806 MHz band would be fully protected during the DTV transition period. In the *Reallocation Notice*, we noted that new licensees in the band will have to protect both analog TV and DTV operations from interference.²⁵⁷ Noting that land mobile and TV stations have successfully shared the 470-512 MHz band (TV Channels 14-20) in 11 major metropolitan areas of the United States, we decided in the

²⁴⁹ See *Part 1 Third Report and Order*, 13 FCC Rcd at 403-04, paras. 47-48.

²⁵⁰ See 47 C.F.R. § 1.2110(e)(2)(iii).

²⁵¹ See 47 C.F.R. § 1.2110(e)(2)(ii). Bidding credits for small businesses are not cumulative; very small businesses may not accumulate a 15 percent credit and a 25 percent credit.

²⁵² *700 MHz First Report and Order* at para. 134. See also *Part 1 Third Report and Order*, 13 FCC Rcd at 403-04, para. 47.

²⁵³ See Alaskan Choice Comments at 4 (suggesting preferences for minorities, women, and underserved communities).

²⁵⁴ See *Adarand Constructors, Inc. v. Peña*, 515 U.S. 200 (1995); *United States v. Virginia*, 518 U.S. 515 (1996).

²⁵⁵ KM Comments at 4-5; APCO Comments at 6-7.

²⁵⁶ See *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MM Docket No. 87-268, *Sixth Report and Order*, 12 FCC Rcd 14588, 14626-27 (para. 80)(1997)(*"DTV Sixth Report and Order"*).

²⁵⁷ *Reallocation of Television Channels 60-69, the 746-806 MHz Band*, ET Docket No. 97-157, *Notice of Proposed Rule Making*, 12 FCC Rcd 14141, 14148, para. 17 (1997)(*"Reallocation Notice"*).

Public Safety Spectrum Report and Order to continue to administer protection criteria for these services in the 764-776 MHz and 794-806 MHz public safety bands in the same manner.²⁵⁸ In the 470-512 MHz band, we relied on minimum separation distances based on the various heights and powers of the land mobile stations to prevent harmful interference.²⁵⁹ In the *700 MHz First Report and Order* we decided to apply the factors and considerations examined in the *Public Safety Spectrum Report and Order* for the protection of TV and DTV operations to the 747-762 MHz and 777-792 MHz bands.²⁶⁰ We also indicated our intention to consider specific regulatory requests needed to implement voluntary agreements between incumbent broadcast licensees and new licensees in the bands.²⁶¹

112. **Discussion.** We are extending the protection criteria applicable to 30 megahertz spectrum operations to operations in the Guard Bands. Section 27.60, as amended, requires 700 MHz commercial operations, including those in the Guard bands, to comply with the provisions of Section 90.545 of our Rules.²⁶² For example, an entity operating on any portion of the 746-747 MHz Guard Band, which is contained in Channel 60, must provide co-channel protection to Channel 60, and adjacent channel protection to Channels 59 and 61.

113. The Congressional plan set forth in Sections 336 and 337 of the Act and in the 1997 Budget Act is to transition this spectrum from its current use for broadcast services to commercial use and public safety services.²⁶³ Congress also has directed us to auction the 36 MHz spectrum for commercial use six years before the relocation deadline for incumbent broadcasters in this spectrum, while adopting interference limits and other technical restrictions necessary to protect full-service analog television service during the transition to DTV.²⁶⁴ The extended license term specified for 700 MHz commercial services on these bands reflects, in part, the recognition that incumbent television licensees on these frequencies may, under the statutory provision for DTV transition, continue to broadcast for some years, delaying the time

²⁵⁸ The 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 and Order and Third Notice of Proposed Rulemaking*, 14 FCC Rcd 152, 220-227, paras. 150-164 (1998) (“*Public Safety Spectrum Report and Order*”).

²⁵⁹ See *Further Sharing of the UHF Television Band by Private Land Mobile Radio Services*, General Docket No. 85-172, *Notice of Proposed Rulemaking*, 101 FCC 2d 852, 865 (1985), *proceeding suspended*, 2 FCC Rcd 6441 (1987).

²⁶⁰ *700 MHz First Report and Order* at para. 139. Certain of our decisions with regard to TV protection in the *Public Safety Spectrum Report and Order* are the subject of reconsideration. To the extent that our actions with regard to that reconsideration result in subsequent changes to the rules adopted in that proceeding, those changes may be reflected as they apply or are relevant.

²⁶¹ *Id.* at para. 145.

²⁶² The provisions of Section 90.545 of our Rules have been incorporated into Section 27.60. 47 C.F.R. § 27.60. In addition, fixed station operations in the 746-747 MHz and 762-764 MHz bands must comply with the relevant provisions for “base stations” in Section 90.309 of our Rules, and fixed station operations in the 776-777 MHz and 792-794 MHz bands must comply with the relevant provisions for “control stations” in Section 90.309 of our Rules. 47 C.F.R. § 90.309.

²⁶³ 47 U.S.C. §§ 336-337.

²⁶⁴ See *Consolidated Appropriations*, Appendix E, Sec. 213. See also 145 Cong. Rec. at H12493-94, (Nov. 17, 1999).

when new users have uncompromised use of the spectrum resource.²⁶⁵

114. In addition, we indicated in the *700 MHz First Report and Order* that we will consider specific regulatory requests needed to implement voluntary agreements reached between incumbent licensees and new users in these bands.²⁶⁶ We extend that policy here to Guard Band operations. Therefore, in considering whether the public interest would be served by approving specific requests, we would, for example, consider the benefits to consumers of the provision of new wireless services as well as whether such agreements would help clear spectrum for public safety use in these bands or could result in the provision of new wireless service in rural and other relatively underserved communities. On the other hand, we would also consider loss of service to the broadcast community of the licensee. For example, we would consider the availability of the licensee's former analog programming within the service area, through simulcast of that programming on the licensee's DTV channel or distribution of the programming on cable or DBS, or the availability of similar broadcast services within the service area, (*e.g.*, whether the lost service is the only network service, the only source for local service, or the only source for otherwise unique broadcast service).

V. CANADIAN AND MEXICAN BORDER REGIONS

115. There are currently separate agreements with Canada and Mexico covering TV broadcast use of the UHF 470-806 MHz band. Such agreements do not reflect the additional use or services being adopted in the *700 MHz First Report and Order* and this item. While the Commission staff has been involved in discussions with both countries regarding coordination or interference criteria for the use of these bands in the border areas for the additional services, agreements have yet to be reached.²⁶⁷ Therefore, until such agreements have been finalized, we believe it necessary, as we did in the *700 MHz First Report and Order* for the 30 megahertz block, to adopt certain interim requirements for operations in the Guard Bands along the Canada and Mexico borders.²⁶⁸ Accordingly, licenses issued for these bands within 120 km of the borders will be subject to whatever future agreements the United States develops with these two countries. In that the existing agreements for the protection of TV stations in these countries are still in effect and must be recognized until they are replaced or modified to reflect the new uses, licenses in the border areas will be granted on the condition that harmful interference may not be caused to, but must be accepted from, UHF TV transmitters in Canada and Mexico. Furthermore, modifications may be necessary to comply with whatever provisions are ultimately specified in future agreements with Canada and Mexico regarding the use of these bands. Pending further negotiations, we also adopt the protection criteria described herein for domestic TV and DTV stations as interim criteria for Canadian and Mexican

²⁶⁵ See Section III.B.4., *supra*.

²⁶⁶ In the *700 MHz First Report and Order* we noted that the joint license structure adopted for incumbent television operators potentially complicates the negotiation process. See *id.* at para. 144 and *DTV Proceeding*, 12 FCC Rcd 12834, paras. 57-60.

²⁶⁷ Both Canada and Mexico have been notified that the Commission has changed the allocation of these bands, and the Commission has discussed with them the possibility of mutually compatible spectrum use in all three countries.

²⁶⁸ *700 MHz First Report and Order* at para. 146. Many agreements have used the geographic distance of 120 km from the border as the coordination or effected area. We will apply this criterion until agreements are reached.

TV and DTV stations.²⁶⁹

VI. PROCEDURAL MATTERS AND ORDERING CLAUSES²⁷⁰

116. Authority. This action is taken pursuant to Sections 1, 4(i), 7, 10, 201, 202, 208, 214, 301, 303, 307, 308, 309(j), 309(k), 310, 311, 324, 332 and 336 and 337 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 157, 160, 201, 202, 208, 214, 301, 303, 307, 308, 309(j), 309(k), 310, 311, 324, 332, and 336, and 337 and the Consolidated Appropriations Act, 2000, Pub. Law 106-113, 113 Stat. 1501, Section 213.

117. Accordingly, IT IS ORDERED that Part 27 of the Commission's Rules IS AMENDED to establish service rules for the 746-747/ 776-777 MHz and 762-764/ 792-794 MHz bands, as set forth in Appendix C, and that, in accordance with Section 213 of the Consolidated Appropriations Act, 2000, Pub. Law 106-113, 113 Stat. 1501 (1999), these Rules shall be effective immediately upon publication in the Federal Register.

118. IT IS FURTHER ORDERED that, pursuant to 47 U.S.C. § 155(c), the Chief of the Wireless Telecommunications Bureau IS GRANTED DELEGATED AUTHORITY to implement and modify auction procedures in the Wireless Communications Services, including the general design and timing of the auction, the number and grouping of authorizations to be offered in any particular auction, the manner of submitting bids, the amount of any minimum opening bids and bid increments, activity and stopping rules, and application and payment requirements, including the amount of upfront payments, and to announce such procedures by Public Notice.

119. IT IS FURTHER ORDERED that, pursuant to 47 U.S.C. § 155(c), the Chief of the Wireless Telecommunications Bureau IS GRANTED DELEGATED AUTHORITY to suspend the payment deadlines in Sections 1.2107(b) and 1.2109(a) of the Commission's Rules, 47 C.F.R. §§ 1.2107(b), 1.2109(a), and require that winning bidders on all licenses in the 746-764 and 776-794 MHz bands pay the full balance of their winning bids upon submission of their long-form applications pursuant to Section 1.2107(c) of the Commission's Rules, 47 C.F.R. § 1.2107(c).

FEDERAL COMMUNICATIONS COMMISSION

²⁶⁹ See Section IV, *supra*.

²⁷⁰ Pursuant to Pub. Law 106-113, 113 Stat. 1501, Appendix E, Section 213, 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, shall not apply to this proceeding.

Magalie Roman Salas
Secretary

APPENDIX ALIST OF PARTIES RESPONDING TO JANUARY 7, 2000 PUBLIC NOTICE**A. Comments**

American Association of State Highway and Transportation Officials (AASHTO)
Association for Maximum Service Television, Inc. (MSTV)
Association of Public Safety Communications Officials-International, Inc. (APCO)
Com-Net Ericsson Critical Radio Systems
Dataradio Corporation
E.F. Johnson Company
FreeSpace Communications
Kenwood Communications Corporation
International Association of Chiefs of Police (IACP)
Industrial Telecommunications Association, Inc. (ITA)
Land Mobile Communications Council (LMCC)
Major Cities Police Chiefs Association (MCPCA)
Major County Sheriff's Association, Inc. (MCSA)
Microsoft Corporation
Motorola Inc
Personal Communications Industry Association, Inc. (PCIA)
SBC Communications, Inc.
Southern LINC
State of Florida Department of Management Services
Washington County Consolidated Communications Agency (WCCCA)

B. Ex Parte Communications and/or Late Filed Comments

City of Milwaukee Police Department
FreeSpace Communications
Industrial Telecommunications Association, Inc. (ITA)
International Association of Chiefs of Police (IACP)
International Municipal Signal Association and International Association of Fire Chiefs, Inc. (IMSA)
Kenwood Communications Corporation
Major County Sheriff's Association, Inc. (MCSA)
Microsoft Corporation
Motorola, Inc.
National Telecommunications and Information Administration (NTIA)

APPENDIX B**LIST OF PARTIES RESPONDING TO NOTICE OF PROPOSED RULEMAKING****A. Comments**

AirTouch Communications, Inc. (AirTouch)
Alaskan Choice Television (Alaskan Choice)
American Mobile Telecommunications Association, Inc. (AMTA)
ArrayComm, Inc.
Association for Maximum Service Television, Inc. (MSTV)
Association of America's Public Television Stations (APTS)
Association of Public-Safety Communications Officials-International, Inc. (APCO)
BayCom Inc.
Bruggeman, Jeffrey A.
Consumer Electronics Manufacturers Association (CEMA)
Harris Corporation (Harris)
Houston 2-Way Radio (H2)
Industrial Telecommunications Association, Inc. (ITA)
Intek Global Corp.
International Association of Fire Chiefs, Inc. and International Municipal Signal Association
(IAFC/IMSA)
Jones, Charles
Kemp, Edwin, F.
KM Communications, Inc.
Microradio Empowerment Coalition
MRFAC, Inc.
Motorola, Inc.
National Translator Association (NTA)
Northside Plumbing Supply
Palletized Trucking, Inc.
Personal Communications Industry Association, Inc. (PCIA)
Rand McNally & Company
Region 20
Rural Telecommunications Group (RTG)
SBC Communications, Inc. (SBC)
Shure Brothers Inc.
Southern Communications, Inc. (Southern)
Telecommunications Industry Assn. (TIA)
U S WEST, Inc.
U.S. GPS Industry Council (GPS Council)
United Telecom Council (UTC)
Utility Communications, Inc.
Walt Disney Company (TWDC)

B. Reply Comments

AirTouch Communications, Inc.
American Mobile Telecommunications Association, Inc.
ArrayComm, Inc.
Association of American Railroads

Association for Maximum Service Television, Inc. (MSTV)
Association of Public-Safety Communications Officials (APCO)
AT&T Corp.
Bell Atlantic Mobile, Inc. (BAM)
Clearwire Technologies, Inc. (Clearwire)
Consumer Electronics Manufacturers Association (CEMA)
DDI Pocket, Inc.
Fox Ridge Communications, Inc.
Harris Corporation (Harris)
Industrial Telecommunications Association, Inc. (ITA)
International. Inc.
KM Communications, Inc. (KM)
Metricom, Inc.
Motorola, Inc.
National Association of Broadcasters (NAB)
Nextel Communications, Inc. (Nextel)
New York State Technology Enterprise Corporation (NYSTEC)
Public Safety Wireless Network Program (PSWNP)
SBC Communications, Inc. (SBC)
Southern Communications Services, Inc. (Southern)
USA Digital Radio, Inc. (USADR)
US GPS Industry Council (GPS Council)
U S WEST, Inc.
Walt Disney Company (TWDC)

C. Ex Parte Communications and/or Late Filed Comments

Advanced Electronics
Alaska Digital, LLC
All-Com Technologies, Inc.
Allcom Wireless, Inc.
American Mobile Telecommunications Association
APCO International
Arizona Department of Public Safety
ArrayComm, Inc.
Association for Maximum Service Television, Inc.
Associations of Public-Safety Communications Officials-International
AT & T Wireless
Atlanta Communications Company
Bair's Electronics Services, Inc.
BayCom, Inc.
BCI Communications
BearCom
Bell Atlantic
Bell Atlantic Mobile
Blair Communications, Inc.
Boeing Company
Burlington Northern Santa Fe Railway Company
Burst Networks, Inc.

Bytel, Inc.
Canadian Pacific Railway
Cellular Telecommunications Industry Assn. (CTIA)
Centre Communications
Cisco Systems, Inc. (Cisco)
City of Chicago, Office of Emergency Communications-Mr. Donatelli
City of Chicago, Office of Emergency Communications-Mr. Nowakowski
City of El Cajon
City of Fort Lauderdale
City of Mishawaka
City of San Diego
Coastal Electronics, Inc.
Cole, Gordon
Coloma Wireless, LLC
Commercial Communications, LLC
Communications & Electronics, Inc.
Communications Electronics, Inc.
Communications Engineering Services
Consumer Electronics Manufacturers Association
Coosa Valley Communications
County of Charleston
CTI Products, Inc.
DATARADIO
Dataradio Group of Companies
Day Wireless Systems
Delta Radio Systems, Inc.
DFW Communications
Dorler Communications Co.
Douglas County Sheriff
EMCO, Inc.
Express Radio, Inc.
Ford Communications
FreeSpace Communications (FreeSpace)
Greer Communications, Inc
Hankey's Radio, Inc.
Hasty's Communication East, Inc.
Houston 2-Way Radio
Industrial Communications & Electronics LLP
Industrial Telecommunications Association, Inc
Intel Government Affairs
Jackson Communications, Inc
Kay Communications, Inc.
KM Communications, Inc.
Leap Wireless International Inc.
Lucent Technologies (Lucent)
Macon Communications, Inc.
Maryland State Police
Mashantucket Pequot Tribal Nation
Maximum Service Television, Inc.
McCord Communications

McDermott Communications Co., Inc.
Metropolitan Communications
Microradio Empowerment Coalition
Microsoft Corporation (Microsoft)
Mobex Communications, Inc.
Mobilcomm
Mobile Communications of Gwinnett, Inc.
Motorola, Inc.
MRFAC, Inc.
National Coordination Committee on Public Safety Spectrum (NCC)
National Telecommunications and Information Administration (NTIA)
Nex-Tech
Nextel Communications, Inc. (Nextel)
North Carolina Smartnet Users Network
North County Dispatch J.P.A.
Office of Emergency Management
Ohio Valley 2-Way Radio, Inc.
P&R Communications, Inc.
PCT Communications
Personal Communications Industry Association (PCIA)
Platte Valley Communications
PSINet
Puget Sound Instrument
QualComm Inc.
Regional Communications, Inc.
Rep. Bliley
Rural Telecommunications Group (RTG)
S&P Communications
Savannah Communications
SBC Wireless, Inc.
Senator Dorgan et al.
Sierra Electronics
Southern Communications Services, Inc. (Southern)
Spectrum
Spectrum Exchange
Supreme Radio Communications, Inc.
Talladega County Emergency Management Agency
TBA Communications, Inc.
Telcordia Technologies, Inc. (Telcordia)
Telephone and Data Systems, Inc. et al. (TDS)
Teletouch Communications, Inc.
Texas Communications
Two Way Radio Services, Inc.
U.S. West Wireless, LLC
Union Pacific Railroad Company
University of Maryland
Walt Disney Company
Western Communications
Whitten's 2-Way Services
Yahoo! Inc.

Appendix C

FINAL RULES

For those reasons discussed in the accompanying Order, part 27 of Title 47 of the Code of Federal Regulations is amended as follows:

1. 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.

PART 27 – MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

2. The table of contents for part 27 is amended by revising the headings for subpart F and Sec. 27.501 and by adding a new subpart G as follows:

* * * * *

Subpart F -- Competitive Bidding Procedures for the 746-764 MHz and 776-794 MHz Bands

Sec.

27.501 746-764 MHz and 776-794 MHz bands subject to competitive bidding.

* * * * *

Subpart G – Guard Band Managers

Sec.

27.601 Guard Band Manager authority and coordination requirements.

27.602 Guard Band Manager agreements.

27.603 Access to Guard Band Manager's spectrum.

27.604 Limitation on licenses won at auction.

27.605 Geographic partitioning and spectrum disaggregation.

27.606 Complaints against Guard Band Managers.

27.607 Performance requirements and annual reporting requirement.

3. Section 27.1 is amended in paragraph (b)(2) to read as follows:

§ 27.1 Basis and purpose.

* * * * *

(b) ***

* * * * *

(2) 746-764 MHz and 776-794 MHz.

* * * * *

4. Section 27.2 is amended in paragraph (a), by inserting the phrase “Except as provided in paragraph (b) of this section” at the beginning thereof, by redesignating paragraph (b) as paragraph (c), and by inserting a new paragraph (b) to read as follows:

§ 27.2 Permissible Communications.

* * * * *

(b) 746-747 MHz, 776-777 MHz, 762-764 MHz and 792-794 MHz bands. Operators in the 746-747 MHz, 776-777 MHz, 762-764 MHz and 792-794 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.

* * * * *

5. Section 27.4 is amended by adding definitions of “Affiliate,” and “Guard Band Manager” in alphabetical order to read as follows:

§ 27.4 Terms and definitions.

* * * * *

Affiliate. The definition of the term *affiliate* shall be the same as in Part 1, Section 1.2110(b)(4) of this chapter.

* * * * *

Guard Band Manager. The term *Guard Band Manager* refers to a commercial licensee in the 746-747 MHz, 762-764 MHz, 776-777 MHz, and 792-794 MHz bands that functions solely as a spectrum broker by subdividing its licensed spectrum and making it available to system operators or directly to end users for fixed or mobile communications consistent with Commission Rules. A *Guard Band Manager* is directly responsible for any interference or misuse of its licensed frequency arising from its use by such non-licensed entities.

* * * * *

6. Section 27.5 is amended in paragraphs (b)(1) and (b)(2) by inserting the phrase “solely to Guard Band Managers” after the word “assignment” in each paragraph.

7. Section 27.6 is amended by revising paragraph (b)(1) to read as follows:

§ 27.6 Service areas.

* * * * *

(b) ***

(1) Service areas for Block A in the 746-747 and 776-777 MHz bands and Block B in the 762-764 and 792-794 MHz bands are based on Major Economic Areas (MEAs), as defined in paragraph (a)(1) of this section.

* * * * *

8. Section 27.10 is amended by inserting the following introductory language at the beginning thereof:

§ 27.10 Regulatory status. Except with respect to Guard Band Manager licenses, which are subject to subpart G of this part, the following rules apply concerning the regulatory status of licensees in the frequency bands specified in § 27.5 of this part.

* * * * *

9. Section 27.12 is amended by inserting the phrase “Except as provided in § 27.604 of this part,” at the beginning thereof.

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

§ 27.13 License Period.

* * * * *

(b) 746-764 MHz and 776-794 MHz bands. Initial authorizations for the 746-764 MHz and 776-794 MHz bands, will extend until January 1, 2015, except that a Part 27 licensee commencing broadcast services, will be required to seek renewal of its license for such services at the termination of the eight-year term following commencement of such operations.

11. Section 27.50 is amended by redesignating paragraph (a) as paragraph (b) and paragraph (b) as paragraph (a), and is further amended in newly-designated paragraph (b) by deleting the phrase “747-762 MHz and 777-792 MHz” and substituting the phrase “746-764 MHz and 776-794 MHz” in lieu thereof, in newly-designated paragraph (b)(1) and the heading for Table 1 following paragraph (c) by deleting the phrase “747-762 MHz” and substituting the phrase “746-764 MHz” in lieu thereof, and in newly-designated paragraphs (b)(2) and (b)(3) by deleting the phrase “777-792 MHz ” and substituting the phrase “776-794 MHz” in lieu thereof.

12. Section 27.53 is amended by redesignating paragraphs (e) and (f) as paragraphs (f) and (g), respectively, and is further amended in newly-designated paragraph (f) by deleting the phrase “747-762 MHz and 777-792 MHz bands” and substituting the phrase “746-764 MHz and 776-794 MHz bands” in lieu thereof, and by adding a new paragraph (e) to read as follows:

§ 27.53 Emission limits.

* * * * *

(e) For operations in the 746-747 MHz, 762-764 MHz, 776-777 MHz, and 792-794 MHz bands, transmitters must meet the following emission limitations:

(1) The adjacent channel coupled power (ACCP) requirements for transmitters designed for various channel sizes are shown in the following tables. Mobile station requirements apply to handheld, car mounted and control station units. The tables specify a maximum value for the ACCP relative to maximum output power as a function of the displacement from the channel center frequency. In addition, the ACCP for a mobile station transmitter at the specified frequency displacement must not exceed the value shown in the tables. For transmitters that have power control, the latter ACCP requirement can be met at maximum power reduction. In the following charts, "(s)" means that a swept measurement is to be used.

6.25 kHz Mobile Transmitter ACCP Requirements

Offset from Center Frequency (kHz)	Measurement Bandwidth (kHz)	Maximum ACCP Relative (dBc)	Maximum ACCP Absolute (dBm)
6.25	6.25	-40	not specified
12.50	6.25	-60	-45
18.75	6.25	-60	-45
25.00	6.25	-65	-50
37.50	25.00	-65	-50
62.50	25.00	-65	-50
87.50	25.00	-65	-50
150.00	100.00	-65	-50
250.00	100.00	-65	-50
>400 to receive band	30 (s)	-75	-55
In the receive band	30 (s)	-100	-70

12.5 kHz Mobile Transmitter ACCP Requirements

Offset from Center Frequency (kHz)	Measurement Bandwidth (kHz)	Maximum ACCP Relative (dBc)	Maximum ACCP Absolute (dBm)
9.375	6.25	-40	not specified
15.625	6.25	-60	-45
21.875	6.25	-60	-45
37.500	25.00	-65	-50
62.500	25.00	-65	-50
87.500	25.00	-65	-50
150.000	100.00	-65	-50
250.000	100.00	-65	-50
>400 to receive band	30 (s)	-75	-55
In the receive band	30 (s)	-100	-70

25 kHz Mobile Transmitter ACCP Requirements

Offset from Center Frequency (kHz)	Measurement Bandwidth (kHz)	Maximum ACCP Relative (dBc)	Maximum ACCP Absolute (dBm)
15.625	6.25	-40	not specified
21.875	6.25	-60	-45
37.500	25.00	-65	-50
62.500	25.00	-65	-50
87.500	25.00	-65	-50
150.000	100.00	-65	-50
250.000	100.00	-65	-50
>400 to receive band	30 (s)	-75	-55
In the receive band	30 (s)	-100	-70

150 kHz Mobile Transmitter ACCP Requirements

Offset from Center Frequency (kHz)	Measurement Bandwidth (kHz)	Maximum ACCP Relative (dBc)	Maximum ACCP Absolute (dBm)
100	50	-40	not specified
200	50	-50	-35
300	50	-50	-35
400	50	-50	-35
600 to 1000	30 (s)	-60	-45
1000 to receive band	30 (s)	-70	-55
In the receive band	30 (s)	-100	-75

6.25 kHz Base Transmitter ACCP Requirements

Offset from Center Frequency (kHz)	Measurement Bandwidth (kHz)	Maximum ACCP (dBc)
6.25	6.25	-40
12.50	6.25	-60
18.75	6.25	-60
25.00	6.25	-65
37.50	25.00	-65
62.50	25.00	-65
87.50	25.00	-65
150.00	100.00	-65
250.00	100.00	-65
>400 to receive band	30 (s)	-80 (continues @ -6dB/oct)
In the receive band	30 (s)	-100

12.5 kHz Base Transmitter ACCP Requirements

Offset from Center Frequency (kHz)	Measurement Bandwidth (kHz)	Maximum ACCP (dBc)
9.375	6.25	-40
15.625	6.25	-60
21.875	6.25	-60
37.500	25.00	-60
62.500	25.00	-65
87.500	25.00	-65
150.000	100.00	-65
250.000	100.00	-65
>400 to receive band	30 (s)	-80 (continues @-6dB/oct)
In the receive band	30 (s)	-100

25 kHz Base Transmitter ACCP Requirements

Offset from Center Frequency (kHz)	Measurement Bandwidth (kHz)	Maximum ACCP (dBc)
15.625	6.25	-40
21.875	6.25	-60
37.500	25.00	-60
62.500	25.00	-65
87.500	25.00	-65
150.000	100.00	-65
250.000	100.00	-65
>400 to receive band	30 (s)	-80 (continues @-6dB/oct)
In the receive band	30 (s)	-100

150 kHz Base Transmitter ACCP Requirements

Offset from Center Frequency (kHz)	Measurement Bandwidth (kHz)	Maximum ACCP (dBc)
100	50	-40
200	50	-50
300	50	-55
400	50	-60
600 to 1000	30 (s)	-65
1000 to receive band	30 (s)	-75 (continues @-6dB/oct)
In the receive band	30 (s)	-100

(2) *ACCP measurement procedure.* The following procedures are to be followed for making ACCP transmitter measurements. For time division multiple access (TDMA) systems, the measurements are to be made under TDMA operation only during time slots when the transmitter is on. All measurements must be made at the input to the transmitter's antenna. Measurement bandwidth used below implies an instrument that measures the power in many narrow bandwidths (e.g. 300 Hz) and integrates these powers across a larger band to determine power in the measurement bandwidth.

(i) *Setting reference level:* Using a spectrum analyzer capable of ACCP 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; for a 150 kHz transmitter, set the measurement bandwidth to 150 kHz. Set the frequency offset of the measurement bandwidth to zero and adjust the center frequency of the spectrum analyzer to give the power level in the measurement bandwidth. Record this power level in dBm as the "reference power level".

(ii) *Measuring the power level at frequency offsets <600kHz:* Using a spectrum analyzer capable of ACCP measurements, set the measurement bandwidth as shown in the tables above. Measure the ACCP in dBm. These measurements should be made at maximum power. Calculate the coupled power by subtracting the measurements made in this step from the reference power measured in the previous step. The absolute ACCP values must be less than the values given in the table for each condition above.

(iii) *Measuring the power level at frequency offsets >600kHz:* Set a spectrum analyzer to 30 kHz resolution bandwidth, 1 MHz video bandwidth and sample mode detection. Sweep +/- 6 MHz from the carrier frequency. Set the reference level to the RMS value of the transmitter power and note the absolute power. The response at frequencies greater than 600 kHz must be less than the values in the tables above.

(iv) *Upper Power Limit Measurement:* The absolute coupled power in dBm measured above must be compared to the table entry for each given frequency offset. For those mobile stations with power control, these measurements should be repeated with power control at maximum power reduction. The absolute ACCP at maximum power reduction must be less than the values in the tables above.

(3) *Out-of-band emission limit.* On any frequency outside of the frequency ranges covered by the ACCP tables in this section, the power of any emission must be reduced below the unmodulated carrier power (P) by at least $43 + 10 \log (P)$ dB.

(4) *Authorized bandwidth.* Provided that the ACCP requirements of this section are met, applicants may request any authorized bandwidth that does not exceed the channel size.

* * * * *

13. Section 27.55 is amended in paragraph (b) by deleting the phrase "747-762 and 777-792 MHz bands" and substituting the phrase "746-764 and 776-794 MHz bands" in lieu thereof.

14. Section 27.60 is amended in the introductory text and in paragraph (b) by deleting the phrase "747-762 MHz and 777-792 MHz" and substituting the phrase "746-764 MHz and 776-794 MHz" in lieu thereof and is further amended in paragraph (b) by deleting the phrase "747-762 MHz or 777-792 MHz" and substituting the phrase "746-764 MHz or 776-794 MHz" in lieu thereof, is amended in paragraph (b)(2)(i) by deleting the phrase "747-762 MHz" and substituting the phrase "746-764 MHz" in lieu thereof, and in paragraph (b)(2)(ii) by deleting the phrase "777-792 MHz" and substituting the phrase "776-794 MHz" in lieu thereof.

15. Section 27.66 is amended by revising paragraphs (a), (b), and (c) to read as follows:

§ 27.66 Discontinuance, reduction, or impairment of service.

(a) Involuntary act. If the service provided by a fixed common carrier licensee, or a fixed common carrier operating on spectrum licensed to a Guard Band Manager, is involuntarily discontinued, reduced, or impaired for a period exceeding 48 hours, the licensee must promptly notify the Commission, in writing, as to the reasons for discontinuance, reduction, or impairment of service, including a statement when normal service is to be resumed. When normal service is resumed, the licensee must promptly notify the Commission.

(b) Voluntary act by common carrier. If a fixed common carrier licensee, or a fixed common carrier operating on spectrum licensed to a Guard Band Manager, voluntarily discontinues, reduces, or impairs service to a community or part of a community, it must obtain prior authorization as provided under § 63.71 of this chapter. An application will be granted within 30 days after filing if no objections have been received.

(c) Voluntary act by non-common carrier. If a fixed non-common carrier licensee, or a fixed non-common carrier operating on spectrum licensed to a Guard Band Manager, voluntarily discontinues, reduces, or impairs service to a community or part of a community, it must give written notice to the Commission within seven days.

16. The heading and the text of Section 27.501 are amended by deleting the phrase “747-762 MHz and 777-792 MHz” and substituting the phrase “746-764 MHz and 776-794 MHz” in lieu thereof.

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

Subpart G – Guard Band Managers**§ 27.601 Guard Band Manager authority and coordination requirements.**

(a) Subject to the provisions of § 27.2(b) of this part and paragraphs (c) and (d) of this section, a Guard Band Manager may allow a spectrum user, pursuant to a written agreement, to construct and operate stations at any available site within the licensed area and on any channel for which the Guard Band Manager is licensed, provided such stations comply with Commission Rules and coordination requirements.

(b) Subject to the provisions of § 27.2(b) of this part and paragraphs (c) and (d) of this section, a Guard Band Manager may allow a spectrum user, pursuant to a written agreement, to delete, move or change the operating parameters of any of the user’s stations that are covered under the Guard Band Manager’s license without prior Commission approval, provided such stations comply with Commission Rules and coordination requirements.

(c)(1) A Guard Band Manager must file a separate station application and obtain all appropriate Commission approvals or authorizations prior to construction of stations that

(i) require submission of an Environmental Assessment under Part 1, Section 1.1307;

(ii) require international coordination; or

(iii) would affect the radio frequency quiet zones described in Part 90, Section 90.177.

(2) Prior to construction of a station, a Guard Band Manager must register with the Commission any

station antenna structure for which notification to the Federal Aviation Administration is required by Part 17 of this chapter.

(3) It is the Guard Band Manager's responsibility to determine whether a referral to the Commission is needed for any individual station constructed in the Guard Band Manager's license area.

(d)(1) A Guard Band Manager must notify Commission-recognized public safety frequency coordinators for the 700 MHz public safety band and adjacent-area Guard Band Managers within one business day after the Guard Band Manager has

- (i) coordinated a new station or modification of an existing station; or
- (ii) filed an application for an individual station license with the Commission.

(2) The notification required in subparagraph (1) must include, at a minimum,

- (i) the frequency or frequencies coordinated;
- (ii) antenna location and height;
- (iii) type of emission;
- (iv) effective radiated power;
- (v) a description of the service area, date of coordination, and user name or, in the alternative, a description of the type of operation.

(3) In the event a Guard Band Manager partitions its service area or disaggregates its spectrum, it is required to submit the notification required in subparagraph (1) to other Guard Band Managers in the same geographic area.

(4) Entities coordinated by a Guard Band Manager must wait at least 10 business days after the notification required in subparagraph (1) before operating under the Guard Band Manager's license;

(5) If, in the event of harmful interference, the Guard Band Manager is unable to resolve the problem by mutually satisfactory arrangements, the Commission may impose restrictions on the operations of any of the parties involved.

(e) Where a deletion, move or change authorized under paragraph (b) of this section constitutes a discontinuance, reduction, or impairment of service under § 27.66 of this part, or where discontinuance, reduction or impairment of service results from an involuntary act subject to § 27.66(a), the Guard Band Manager must comply with the notification and authorization requirements set forth in that section.

§ 27.602 Guard Band Manager agreements.

Guard Band Managers are required to enter into written agreements regarding the use of their licensed spectrum by others, subject to the following conditions:

(a) The duration of spectrum user agreements may not extend beyond the term of the Guard Band

Manager's FCC license.

(b) The spectrum user agreement must specify in detail the operating parameters of the spectrum user's system, including power, maximum antenna heights, frequencies of operation, base station location(s), area(s) of operation, and other parameters specified in Commission rules for the use of spectrum identified in § 27.5(b)(1) and (b)(2) of this part.

(c) The spectrum user agreement must require the spectrum user to use Commission-approved equipment where appropriate and to complete post-construction proofs of system performance prior to system activation.

(d) The spectrum user must agree to operate its system in compliance with all technical specifications for the system contained in the agreement and agree to cooperate fully with any investigation or inquiry conducted by either the Commission or the Guard Band Manager.

(e) The spectrum user must agree to comply with all applicable Commission rules, and the spectrum user must accept Commission oversight and enforcement.

(f) The spectrum user agreement must stipulate that if the Guard Band Manager determines that there is an ongoing violation of the Commission's rules or that the spectrum user's system is causing harmful interference, the Guard Band Manager shall have the right to suspend or terminate operation of the spectrum user's system. The spectrum user agreement must stipulate that if the spectrum user refuses to comply with a suspension or termination order, the Guard Band Manager will be free to use all legal means necessary to enforce the order.

(g) The spectrum user agreement may not impose unduly restrictive requirements on use of the licensed frequencies, including any requirement that is not reasonably related to the efficient management of the spectrum licensed to the Guard Band Manager.

(h) Guard Band Managers shall maintain their written agreements with spectrum users at their principal place of business, and retain such records for at least two years after the date such agreements expire. Such records shall be kept current and be made available upon request for inspection by the Commission or its representatives.

§ 27.603 Access to the Guard Band Manager's spectrum.

(a) A Guard Band Manager may not engage in unjust or unreasonable discrimination among spectrum users and may not unreasonably deny prospective spectrum users access to the Guard Band Manager's licensed spectrum.

(b) A Guard Band Manager may not impose unduly restrictive requirements on use of its licensed frequencies, including any requirement that is not reasonably related to the efficient management of the

spectrum licensed to the Guard Band Manager.

(c) A Guard Band Manager may lease a reasonable amount of its spectrum to an affiliate for the affiliate's own internal use or for the affiliate's provision of commercial or private radio services. However, a Guard Band Manager must lease the predominant amount of its spectrum to non-affiliates.

§ 27.604 Limitation on licenses won at auction.

(a) For the first auction of licenses in Blocks A and B, as defined in § 27.5 of this part, no applicant may be deemed the winning bidder of both a Block A and a Block B license in a single geographic service area.

(b) For purposes of paragraph (a) of this section, licenses will be deemed to be won by the same bidder if an entity that wins one license at the auction is an affiliate of any other entity that wins a license at the auction.

§ 27.605 Geographic partitioning and spectrum disaggregation.

An entity that acquires a portion of a Guard Band Manager's geographic area or spectrum subject to a geographic partitioning or spectrum disaggregation agreement under § 27.15 of this part must function as a Guard Band Manager and is subject to the obligations and restrictions on Guard Band Manager licenses set forth in this subpart.

§ 27.606 Complaints against Guard Band Managers.

Guard Band Managers are expected to resolve disputes with their customers or disputes between multiple customers of the Guard Band Manager in the same manner that the parties would resolve other commercial disputes arising out of the spectrum user agreement. The Commission will also consider complaints filed against a Guard Band Manager for violating the Communications Act or the Commission's regulations or policies. When there is a dispute between a Guard Band Manager, or its spectrum user, and a non-contracting party, and the Guard Band Manager is unable or unwilling to resolve such dispute in a timely fashion, the non-contracting party may file a complaint with the Commission pursuant to § 1.41 of this chapter.

§ 27.607 Performance requirements and annual reporting requirement.

(a) Guard Band Managers are subject to the performance requirements specified in § 27.14(a) of this part.

(b) Guard Band Managers are required to file an annual report providing the Commission with information about the manner in which their spectrum is being utilized. Such reports shall be filed with the Commission on a calendar year basis, no later than the March 1 following the close of each calendar year, unless another filing date is specified by Public Notice.

(c) Guard Band Managers must, at a minimum, include the following information in their annual reports:

(1) The total number of spectrum users and the number of those users that are affiliates of the Guard Band Manager;

(2) The amount of the Guard Band Manager's spectrum being used by the Guard Band Manager's

affiliates in any part of the licensed service area;

(3) The amount of Guard Band Manager's spectrum being used pursuant to agreements with unaffiliated third parties;

(4) The nature of the spectrum use of the Guard Band Manager's customers; and

(5) The length of the term of each spectrum user agreement.

(d) The specific information that Guard Band Managers will provide and the procedures that they will follow in submitting their annual reports will be announced in a Public Notice issued by the Wireless Telecommunications Bureau.

Separate Statement of Commissioner Susan Ness

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

With this Order, we conclude our adoption of rules for licensing new commercial services in the spectrum currently utilized by television channels 60 to 69. In the near future, we will auction a total of 36 MHz in the 746-806 MHz band. In our *First Report and Order* in this proceeding, I strongly supported our actions unleashing 30 MHz of prime spectrum for a variety of wireless services that could include fixed and mobile Internet access. Our decision balanced the needs of a number of competing demands for spectrum, including those seeking to provide wireless alternatives to the local loop, fixed high-speed Internet connections and advanced mobile services. We provided for an extremely flexible allocation of expansive regional 10 MHz and 20 MHz spectrum blocks with the capability for paired channels; the marketplace will determine which services will be provided to the public. From this action will flow the deployment of new advanced wireless services that will benefit the public.

In our *First Report and Order*, I also supported the designation of 6 MHz of spectrum to serve as guard bands to ensure that the public safety service licensees that will operate in the 700 MHz band will “operate free of interference from any new commercial licensees.” While I strongly considered a flexible allocation of 36 MHz relying on technical constraints alone to protect public safety operations, I concluded with my colleagues that the Congressional directive to maximize our protection of public safety communications was best served by establishing guard bands. Today I also support the strict technical rules, coordination requirements, and architectural restrictions we adopt to further ensure, as Congress mandated, that public safety organizations using frequencies adjacent to commercial operations in this band do not suffer harmful interference to their critical communications services. In supporting these restrictions, my objective, as it was in establishing the guard bands, is to protect public safety operations from interference. I have listened carefully to the representatives of public safety organizations across this country, including APCO and the Independent Association of Police Chiefs, and reviewed the conclusions of our staff regarding potential interference to public safety operations. While it is a difficult balance, I believe the Commission and its staff have made the wisest choices to protect public safety. I support the proposed restrictions because I conclude that we should not take any unnecessary chance that adjacent commercial operations will interfere with the efforts of those who place their lives on the line to protect and secure the public safety.

**SEPARATE STATEMENT OF COMMISSIONER HAROLD FURCHTGOTT-ROTH,
APPROVING IN PART, DISSENTING IN PART**

Re: 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 (rel. March 9, 2000)

Although I am pleased that we have brought the guard band licensing debate to an end, I am disappointed that the majority has taken such a restrictive and regulatory approach to these bands. As I stated in my Separate Statement in the First Report and Order, I would have taken a different tack.¹

I have concerns about two portions of today's decision: (1) prohibiting cellular architecture in the guard bands, and (2) restricting licensees to "guard band managers." In my view, both of these measures will have the effect of limiting competition and innovation – with few, if any, corresponding public benefits.

Congress mandated that the Commission adopt policies that protect adjacent public safety licensees.² However, interference protection is, by its nature, a balancing act. Barring any licensees from the guard bands would be the most definitive way to ensure Congress' goal of protecting public safety licensees. Yet, even if we took that sweeping step, the public safety licensees are still likely to experience some interference from the "main bands" – the licensees in the 30 MHz of spectrum addressed in the First Report and Order. Thus, the real challenge presented here is to protect public safety in the most reasonable way possible, consistent with our other policies.

In this Order, we have adopted detailed interference limits to achieve this goal. In my view, such interference protections coupled with vigorous enforcement and harsh penalties for noncompliance is generally sufficient to protect adjoining licensees. This Order supplements that protection with a frequency coordination requirement. Without passing on its ultimate necessity, it is clear that frequency coordination provides another layer of protection for public safety. In addition to interference limits and frequency coordination, the majority has also adopted a ban on cellular-style architecture in the guard bands.

In my view, the cellular architecture bar is intrusive, unnecessary and needlessly limits the range of services available to the American people. The ban creates Commission obligations to define and enforce this policy. I certainly do not look forward to resource-consuming Commission debates over which architectures are sufficiently "cellular" to be barred.

Apparently it is the majority's view that cellular architecture makes it too difficult to protect public safety. Yet this view fails to account for technological innovation that may indeed produce sufficient protection for public safety licensees. Perversely, today's Order discourages interference improvements by cellular systems by barring them completely from the guard bands. The cellular prohibition also effectively limits the types of services that can be provided in these bands. In the end, I would have set strict interference limits and enforced them – without any of the limitation on the system's architecture.

I also must dissent from the majority's decision to limit guard band license eligibility to new government-conceived entities known as "guard band managers." As I have stated before, I have no inherent objection to the band manager concept. In my view, if someone makes a business decision to

¹ See Separate Statement of Commissioner Harold Furchtgott-Roth in 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 (rel. Jan. 7, 2000).

² 47 U.S.C. § 337 (d)(1).

create such an operation, the Commission should not stand in the way. However, I am disturbed by the majority's mandate that anyone interested in participating in the guard band auction must be a "guard band manager."

A true "test" of the band manager concept would have permitted band managers to bid against other business models.³ The market would have subsequently sorted out the winners and losers. Then we might have had some legitimate data to access what the FCC can do to allow the markets to function more freely. Instead of that potentially useful test, we have fixed the result – band managers will win because they are only ones permitted to play. Limiting an auction to one type of licensee shortchanges the public and the marketplace.

The guard band manager set-aside also places the FCC in the role of dictating a business plan. "Guard band managers" must, among other requirements, lease all of their spectrum to third parties, must set up a separate affiliate in order to provide service directly to the public, and must limit their affiliates' use of the spectrum.⁴ This is not a free market or even a test. It is government implicitly asserting that it knows better than the marketplace. I cannot join such an "old school" regulatory approach.

The intrusiveness of this decision is readily demonstrated by an example. XYZ Corp. wishes to participate in the auction in order to offer a commercial radio service directly to the public. XYZ believes it needs an entire 2 MHz license throughout its service area to do so. In my view, a pro-market, deregulatory FCC should not stand in the way. The majority, however, has decided that XYZ Corp. needs a little government "help" with its business plan. So, under today's decision, XYZ Corp. must become a guard band manager to participate in the auction – thus being forced to enter the business of leasing spectrum to third parties in order to use this spectrum commercially. However, as a guard band manager it cannot offer service directly to the public; nor can it use all of a 2 MHz license throughout the service area for its own operations. Instead, XYZ Corp. must set up an affiliate, ABC Corp., which is permitted to provide service directly to the public. However, in order to comply with our 50% affiliate use restriction, ABC can only use 1 MHz of the 2 MHz won by XYZ at auction.⁵

The affiliate requirement makes no sense to me. Other than an employment program for corporate lawyers, there is no public benefit that I can discern from requiring a band manager to set up an affiliate in order to provide service to the public. As a "commercial" band under the statute, I see no reason why guard band licensees should be limited in their ability to offer services directly to the public.

Similarly the 50% affiliate use restriction seems unnecessary. The majority seems to believe that businesses will not use their spectrum resources in the most efficient way possible in order to maximize profits. This suspicion has led the majority to adopt rules designed to mandate efficiency by forcing guard band licensees to make a certain percentage of their purchased spectrum available to unaffiliated third parties. Unlike the majority, I trust the market to create the most efficient outcome. In my view, if a licensee makes the most profit by leasing all of its spectrum to third parties, they will do so. If, alternatively, a company can make the greatest profits by using the spectrum in its own business endeavors,

³ The majority invokes the "test" rationale as a basis for limiting affiliated use to less than 50% and prohibiting each guard band licensee from obtaining both licenses in one region during the first bidding cycle. See ¶¶ 59, 62.

⁴ See Order at ¶¶ 29, 59.

⁵ The majority has mandated that a guard band manager licensee lease a "predominant" amount of its spectrum to unaffiliated third parties. Order at ¶ 59. It is difficult to discern the exact parameters of such a requirement. As a proxy for the purposes of this statement, I have simplified this requirement into a 50% cap on affiliated uses. Presumably that represents at least one viable interpretation of this requirement.

then so be it. I place no normative judgment on either outcome. Therefore I would have eliminated the 50% affiliate use restriction as well.

Some have argued that the set aside for “guard band managers” is warranted by our spectrum management obligations and the need to protect public safety. I cannot agree. Guard band managers are not inherently more effective at protecting public safety. Public safety protection is afforded by our interference rules, not by the nature of the licensee’s business plan. Any licensee willing to adhere to our rules would create at least the same level of interference protection to public safety.⁶ As for spectral efficiency, band managers do not have any unique advantage that I can discern. Any licensee (band manager or not) can engage in site-by-site licensing. Similarly licensees are free to aggregate and disaggregate as they wish. Regardless of the majority’s aspirations, there is no guarantee that a band manager will make spectrum available to a critical mass of third parties.⁷ For example, the majority’s rules would allow a band manager to lease 100% of its spectrum to one unaffiliated entity. Yet the same rules would bar one guard band licensee from using the spectrum entirely for its own business. Thus, it’s hard to see how the “guard band licensee” restriction can be viewed as more effective at getting spectrum into multiple entities’ hands. It is my expectation that licensees, like all businesses, will manage their resources efficiently and obey our interference rules. It is not clear to me that a government-mandated business model is necessary or helpful in creating those results.

Based on the foregoing, I respectfully dissent from those portions of the order barring cellular-style architecture and restricting licensees to guard band managers.

⁶ For example, our frequency coordinators provide many of the same interference protections as guard band managers.

⁷ See Order ¶¶ 32-34

SEPARATE STATEMENT OF COMMISSIONER MICHAEL POWELL,
DISSENTING IN PART**Re: Service Rules for the 746-764 and 776-794MHz Bands, and Revisions to Part 27 of the Commission's Rules (Guard Bands), WT Docket No. 99-168, *Second Report and Order***

I support the decision in this *Second Report and Order* to establish firm technical rules for the "Guard Bands" in the 700 MHz band designed to protect very important public safety radio operations in the adjacent bands. The additional time spent in seeking comment on the technical issues has yielded valuable information demonstrating that allowing cellular architectures in the Guard Bands would present an unacceptable risk of interference to public safety licensees. The enhanced coordination difficulties would also be too much to ask taxpayer-supported public safety agencies to overcome. Therefore, I will generally defer to the judgments and recommendations of our engineering experts in the Wireless Telecommunications Bureau and the Office of Engineering and Technology on these technical and coordination issues, absent clear and convincing contrary showings. None being presented here, I accede to the judgment that cellular architectures would pose an unacceptable risk to public safety. I do so, exclusively, on technical and coordination grounds.

However, I part company from my colleagues' decision to set-aside these Guard Band licenses for a single flavor of commercial user -- the "Guard Band Manager" (GBM). Guard bands are a valid spectrum management tool used to protect adjacent spectrum from unacceptable interference, and with public safety frequencies at issue, one can easily see the importance of employing them. Of course, if we were unwilling to accept even minimal interference from the Guard Bands, we would disallow any providers from operating therein. Yet, the Commission has accepted with some merit that it is spectrally efficient to allow some operation in the band, for services that can operate under strict technical limitations. I agreed with that prior decision, but what is bewildering is the majority's decision today to allow only one — government-designed — type of commercial provider in the Guard Bands. The majority does not assert, as it could not possibly, that it has done so because only GBMs can operate safely in the band. Instead, having hatched its prized creation, like Dr. Frankenstein, the Commission wants to incubate the creature in its own sheltered nest. I am not flatly opposed to the band manager concept as a way to facilitate the privatization of some of our licensing functions and to make more spectrum available to end users. I do believe, though, that granting them exclusive territory in these Guard Bands is unwarranted and ill advised for a number of reasons.

First, the set-aside is unnecessary to protect public safety, which was the sole purpose for establishing the Guard Bands in our previous Order. The additional interference protections and procedures adopted here adequately further that purpose. There is no reason to conclude that a GBM can meet the specifications, but no other imaginable commercial licensee could. Moreover, disallowing cellular architectures diminishes the threat of interfering uses resulting from a proliferation of carriers in the band, which as a practical matter severely narrows the number and type of viable applicants and users that might seek this spectrum. Finally, the further step of regulating various aspects of the commercial relationship between Guard Band licensees and end users may cost us credibility when it comes to judging our ability to adopt, implement and enforce our technical rules.¹

¹ In addition to meeting our technical restrictions designed to protect public safety, the Order provides that Guard Band licensees (1) must make the licensed spectrum available to third parties only through "leasing" the spectrum and act only as a "spectrum broker," not as a wireless service provider (Order at ¶¶ 27 and 54); (2) are required to lease the "predominant amount of their spectrum" to non-affiliates (*Id.* at ¶ 59); (3) are limited in the first auction to one of the Guard Band Manager licenses in each market for competitive reasons (*Id.* at ¶ 62); and (4) are prohibited from imposing on end users "unduly restrictive requirements" on use of the licensed frequencies, such as requiring an end user to purchase telecommunications equipment only from one

Second, restricting the Guard Bands to one form of licensee smothers the development of innovative uses of the band, employing different business models and technology. I regret that rather than extending our prior successes in employing greater licensee flexibility and fully competitive auctions in order to promote the highest and best use of commercial spectrum, we are leaning back from these principles. As a consequence, potential licensees with new and innovative ways to use these guard bands will either be excluded from the auction or be forced to modify their business plans (in a very short time period) to qualify as a GBM. It is the auction process and the market that should pick the winning and losing business models for the provision of spectrum-based services. If any entity can comply with the technical rules, they should not be shut out of the auction or forced to re-tool quickly their business.

Third, I am concerned that reserving the Guard Band to GBMs is not entirely faithful with Congress' direction. We re-allocated this spectrum, pursuant to the 1997 Balanced Budget Act, for "commercial uses."² Nevertheless, the *Notice* in this proceeding sought "comment on the extent to which, consistent with the statute, the spectrum here can and should be available for private mobile and private fixed radio services."³ There has been some genuine doubt as to whether spectrum secured for private internal use complies with the statute's commercial use requirement.⁴ Sufficiently concerned with the language of the statute, the Commission has developed a new approach to the Band Manager concept and now, according to the government, GBMs shall be in the "business of leasing spectrum."⁵ To its credit, the majority does not, however, restrict GBMs to serving only private wireless users, and will permit them to lease spectrum to a wide range of customers, including network operators that provide fixed or mobile internal communications services or commercial radio services to end users.⁶ But, let's look closer: (1) the prohibition on cellular architectures tends to favor private and other types of spectrum users that traditionally deploy non-cellular technology and are experienced in coordinating among various site-based licensees, including public safety operations; (2) we originally conceived the Band Manager concept as a mechanism for auctioning spectrum allocated to private radio services;⁷ (3) the purpose of the requirement

manufacturer or vendor, to require use of a particular technology, or to impose operating rules that would have the same practical effect (*Id.* at ¶ 66). I fear that these limitations on a Guard Band licensee's business will also tend to restrict eligibility and participation in this auction.

² 47 U.S.C. 337(a)(2); Reallocation of Television Channels 60-69, the 746-806 MHz Band, ET Docket No. 97-157, *Report and Order*, 12 FCC Rcd 22953, 22962-63 ¶ 20 (1998) ("The Budget Act requires that we assign this portion of the band for commercial use by auction. Private organizations or industry groups, however, will have the opportunity to seek the desired spectrum by participating in the auction.").

³ Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules, WT Docket No. 99-168, *Notice of Proposed Rule Making*, 14 FCC Rcd. 11006, 11014-15 ¶ 15 (1999) (emphasis added). Several commenters in this proceeding suggested that our band plan should include spectrum allocated for use by the private wireless industry and licensed to Band Managers through auction.

⁴ See Order at ¶¶ 36-41 (dedicating significant ink to these "statutory considerations" and concluding that the business of leasing spectrum as a GBM constitutes a "commercial use" even if private users are permitted to lease spectrum from GBMs.)

⁵ Order at ¶¶ 2 and 41.

⁶ See Order at ¶ 41. As Commissioner Furchtgott-Roth points out, it is unclear whether GBMs are permitted to provide service directly to the "public" or only through a separate affiliate. See also Order at n. 61.

⁷ See Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, WT Docket No. 99-87, *Notice of Proposed Rule Making*, 14 FCC Rcd 5206, 5247-49 ¶¶ 88-95 (1999) ("[A] Band Manager would be eligible to apply for a private radio license, with mutually exclusive applications subject to resolution through competitive bidding. The Commission's principal role would be to allocate spectrum for private services, establish the size and scope of the Band Manager license, and conduct auctions if mutually exclusive applications

that GBMs lease the predominant amount of their spectrum to non-affiliates is to “ensure that we conduct a useful test of the Band Manager concept and obtain the full benefits of this new licensing approach, a core feature of which is leasing spectrum to third parties” (Order at ¶ 59); and (4) most telling, again, the result here is that only GBMs can bid for Guard Band spectrum. Thus, when viewed in totality, it is evident that this exclusivity is principally designed to substantially increase the likelihood (if not guaranty) that the spectrum ultimately lands in the hands of private users. This raises some question as to whether we have acted within the full spirit of Congress’ statutory objective.

I would have preferred that the guard band auction be open to all eligible businesses that are willing to comply with our technical rules. Accordingly, I respectfully dissent to the decision in the *Second Report and Order* to license the 700 MHz Guard Bands exclusively to Guard Band Managers.

are received. As a condition of the Band Manager license, the Band Manager would be required to restrict its operations to the offering of internal communications services and/or capacity to an identified class of private radio eligibles.”).

**Separate Statement of
Commissioner Gloria Tristani**

Re: *Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commissions Rule*, Second Report and Order, WTB Docket No. 99-168.

Although both sides have made worthy claims to serving the public interest, I support the decision to impose technical restrictions in the Guard Band spectrum, including a ban on cellular system architecture. The 700 MHz spectrum is well-suited for new services that will help fulfill consumers' growing wireless needs and demands. Interested parties tout its potential for next generation mobile services and fixed wireless broadband services that can be deployed ubiquitously. Even the Guard Bands, which total six megahertz of spectrum, have generated proposals for a variety of uses, including delivery of broadband services to underserved and unserved areas. The challenge of the *700 MHz proceeding*, however, has been to craft a framework that allows for the deployment of such new and innovative services, while fulfilling the Congressional mandate that public safety operations using adjacent spectrum are protected from harmful interference. I believe that our action today, together with the *First Report and Order*, strikes an appropriate balance.

In the 1997 Balanced Budget Act, Congress directed the Commission to reallocate the 746-806 MHz band from exclusive broadcast use to public safety and commercial uses.¹ In doing so, Congress mandated that the Commission establish rules to protect public safety users from harmful interference caused by television broadcasters.² In addition, Congress directed the Commission to ensure that public safety users "continue to operate free of interference from any new commercial licensees."³ I take this direction most seriously. As policymakers, we need to ensure that those who dedicate themselves to protecting life and property can do their jobs without worrying that their communications links may be severed at any moment.

Working with the public safety community, industry, my colleagues and Commission staff, I have sought to provide service rule flexibility while limiting the potential for harmful interference to public safety operations. In the 30 megahertz of spectrum that was the subject of the *First Report and Order*, we adopted rules that take account of these two objectives. Although certain technical restrictions apply, I have no doubt that consumers will benefit greatly from the new services that will be deployed in this spectrum and the exciting applications that will result.

To give full effect to Congress' direction, however, we adopt rules today that impose further technical requirements on Guard Band spectrum immediately adjacent to public safety spectrum. In particular, we require entities operating in the Guard Bands to adhere to the same interference protection regime that governs 700 MHz public safety users. Guard Band Manager licensees will be responsible for engaging in

¹ 47 U.S.C. § 337(a), amended by the Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251, § 3004 (1997) (directing that 24 megahertz of spectrum be reallocated for public safety use and 36 megahertz be reallocated for commercial use).

² 47 U.S.C. § 337(d)(4).

³ H.R. Conf. Rep. No. 105-2015, at 580 (1997).

frequency coordination with public safety coordinators. In addition, the rules we adopt today prohibit cellular system architectures in the Guard Bands. The public safety community asserts, and I have come to believe, that as a practical matter cellular architectures adjacent to public safety users would create significant hardships in the frequency coordination process and could increase the potential for harmful interference. Despite the enticing potential the Guard Band spectrum offers for certain commercial uses, I believe that our primary obligation here is to limit the potential for such harmful interference.

I support the action we take today, which fulfills the Congressional mandate to ensure that public safety users may operate in the 700 MHz spectrum without harmful interference.