

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

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

REPORT AND ORDER

Adopted: December 12, 2001

Released: January 18, 2002

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

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I. INTRODUCTION

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

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

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

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

II. BACKGROUND

3. Section 309(j)(14) of the Communications Act of 1934, as amended (“Communications Act” or “Act”), requires the Commission to assign spectrum recovered from broadcast television using competitive bidding, and envisions that the Commission will conduct an auction of this spectrum by September 30, 2002.³ The statute further requires analog broadcasters to cease operation in the recovered spectrum by the end of 2006 unless the Commission extends the end of the transition.⁴ As provided in the statute, the Commission is required to extend the end of the transition at the request of individual broadcast licensees on a market-by-market basis if one or more of the four largest network stations or affiliates are not broadcasting in digital, digital-to-analog converter technology is not generally available, or 15 percent or more television households are not receiving a digital signal.⁵

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

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

⁴ *Id.* § 309(j)(14)(A)-(B).

⁵ *Id.* § 309(j)(14)(B)(i)-(iii).

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

digital television transmission system is more spectrally efficient than the analog system, less spectrum will be needed for broadcast television service after the transition. The Upper 700 MHz Band (Channels 60-69) comprises 60 megahertz, while the Lower 700 MHz Band (Channels 52-59) comprises 48 megahertz. The reclamation of television spectrum has been addressed in two parts, primarily as a result of different statutory requirements applicable to the two bands and differing degrees of incumbency in the two bands.⁷ The Lower 700 MHz Band is significantly more occupied by incumbent television operations than is the Upper 700 MHz Band.⁸ The Commission was required to make specific allocations in the Upper 700 MHz Band by January 1, 1998.⁹ Early recovery of additional spectrum beyond the Upper 700 MHz Band was not contemplated in the DTV transition plan.¹⁰ Both Congress and the Commission initially expected to license the Lower 700 MHz Band after the auction of the Upper 700 MHz Band.¹¹ While Congress did not specify the amount of spectrum to be reclaimed beyond the Upper 700 MHz Band, the Commission determined that all broadcasters could operate with digital transmission systems in Channels 2-51 after the transition, thus allowing Channels 52-59 to be reclaimed for new services.¹²

5. As indicated above, we are required to assign the reallocated spectrum via competitive bidding. Several statutory mandates inform the approach we take when considering allocation and service rules for such spectrum. Under Section 309(j)(3) of the Act, the Commission must consider a bidding methodology that promotes a number of objectives, including new technologies, services for the public, economic competition and growth, commercial use, and time for interested parties to develop their business plans.¹³ Under Section 309(j)(4), the regulations must prescribe area designations and bandwidth assignments that promote (a) equitable distribution of licenses and services among geographic areas, (b) economic opportunity for a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women, and (c) investment in, and rapid deployment of, new technologies and services.¹⁴ Similarly, under Section 303(y)(2), the Commission is authorized to allocate spectrum to provide flexibility of use.¹⁵ The (Continued from previous page)

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

⁷ *Notice*, 16 FCC Rcd at 7282 ¶ 6.

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

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

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

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

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

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

¹⁴ *See id.* § 309(j)(4).

¹⁵ *See id.* § 303(y)(2).

Commission must make affirmative findings that such flexibility: (1) is consistent with international agreements, (2) would be in the public interest, (3) would not deter investment in communications services and systems, or technology development, and (4) would not result in harmful interference among users.¹⁶ We adopt this Report and Order with full consideration of these requirements.

III. DISCUSSION

6. While the end of the DTV transition is targeted for the end of 2006, the statute anticipates that the Commission will reclaim excess television spectrum by September 30, 2002.¹⁷ Therefore, the auction for this spectrum will occur a number of years in advance of the end of the digital transition. During this period, incumbent broadcasters may continue to operate in the band. New licensees may operate in the band prior to the end of the transition, provided they do not interfere with existing analog and digital broadcasters. In the *Notice*, the Commission established a framework for consideration of both allocation and service rules for the Lower 700 MHz Band that was modeled on the decisions the Commission made in the Upper 700 MHz Band proceeding.¹⁸ While we conclude that many of these decisions can be implemented in the Lower 700 MHz Band, we do not hesitate to take a different approach when we conclude that the differences between these spectrum resources outweigh the similarities.¹⁹

¹⁶ See *id.*

¹⁷ See BBA 97 §§ 3003, 3007.

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

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

A. Spectrum Allocation Issues

1. Reallocation of the 698-746 MHz Band

7. Domestically, the Lower 700 MHz Band is currently allocated on a primary basis to non-government broadcasting. TV Channels 52-59 (each channel represents 6 megahertz of spectrum) occupy the band. TV broadcast services may also use TV subcarrier frequencies, and, more generally, their TV channels, on a secondary basis for other purposes, including datacasting.²⁰ The band is further allocated to the fixed service for subscription television operations in accordance with Part 73 of our rules.²¹ Internationally, the band is allocated worldwide on a primary basis to broadcasting services. The band is also allocated to fixed and mobile services in Region 2 (which includes the United States) on a secondary basis and in Region 3 on a co-primary basis.²² A footnote to the International Table of Frequency Allocations elevates the allocation to fixed and mobile services to primary status in the United States, Mexico, and several other Region 2 countries, but this primary allocation has yet to be implemented domestically.²³

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

²⁰ See 47 C.F.R. § 2.106 note NG128.

²¹ See *id.* § 2.106 note NG149.

²² *Id.*

²³ *Id.* § 2.106 note S5.293.

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

²⁵ See *id.*

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

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

Lower 700 MHz Band for 3G services.²⁸ At WRC-2000, the United States proposed that the Lower 700 MHz Band be identified as one of several candidate bands for the terrestrial component of new advanced communication applications.²⁹

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

a. Fixed, Mobile, and Broadcast Allocation

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

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

²⁸ *Id.* at 612 ¶ 38.

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

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

³¹ *Id.* at 7285 ¶ 11.

³² *Id.* at 7286-87 ¶ 14.

³³ *Id.*

³⁴ *Id.*

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

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

³⁷ Qwest Comments at 2.

12. The proposal to retain the existing broadcast allocation also received support, but several commenters question whether fixed and mobile services can successfully coexist with broadcast operations in the band.³⁸ The parties that support a broadcast allocation note that such an allocation would afford flexible use of the spectrum³⁹ and might allow DTV licensees to utilize translators in areas that may suffer service deficiencies.⁴⁰ Those commenters who do not support a broadcast allocation – including CTIA and Qwest – do not disagree with the tentative conclusion in the *Notice* that the public interest would be served by allowing licensees broad flexibility, but instead question whether advanced wireless providers can successfully coexist with new broadcast operations.⁴¹ CTIA, for example, contends that “it is not technically feasible” for advanced wireless providers to share the band with full power broadcasters, both because of the Commission’s experience in the Upper 700 MHz Band proceeding and because the engineering, operational and regulatory considerations necessary to share spectrum between two unlike services.⁴²

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

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

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

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

⁴⁰ Cox Reply at 7-9.

⁴¹ CTIA Comments at 2. See also Qwest Comments at 2.

⁴² CTIA Comments at 2-3.

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

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

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

⁴⁶ *Id.* at 19870 ¶ 9.

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

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

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

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

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

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

⁵¹ 47 U.S.C. § 303(y).

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

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

⁵⁴ See, e.g., *Upper 700 MHz First Report and Order*, 15 FCC Rcd at 483 ¶ 15 (stating that, “[b]ased on the predominant interest in fixed and mobile wireless services expressed in the record, we will adopt service rules primarily oriented toward fulfilling the need for a variety of wireless services on these bands”); *Id.*, 15 FCC Rcd at 486 ¶ 22 (concluding that a flexible use broadcast and fixed and mobile allocation satisfied the requirements of Section 303(y)).

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

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

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

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

⁵⁶ Cox Reply at 7-9.

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

⁵⁸ See Appendix D.

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

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

broadcast operations and, therefore, are not at issue.⁶¹

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

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

b. Special Considerations for Broadcast Allocation

21. Background. At the end of the DTV transition, television broadcasting will remain adjacent to the Lower 700 MHz Band, with full power and Class A low power television stations operating on TV Channel 51.⁶⁶ In the *Notice*, the Commission sought comment on whether restrictions on the allocation are necessary to protect these adjacent channel broadcast television operations. Among the possibilities suggested in the *Notice* were a guard band or a separate allocation at the lower end of the band limited to low power services.⁶⁷ The *Notice* also asked whether a fixed-only allocation or limitations on systems with low immunity to high-powered signals would best account for potential interference from adjacent-channel broadcast operations.⁶⁸

22. Although commenters recognized potential interference issues at the low end of this band,

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

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

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

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

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

⁶⁶ *Notice*, 16 FCC Rcd at 7287 ¶ 16.

⁶⁷ *Id.*

⁶⁸ *Id.*

the only proposal that generated significant discussion was that of a guard band allocation. Qwest suggests that the service-specific technical rules, which will establish limits for harmful interference between licensees, will dictate whether a licensee needs to establish a guard band on its own. It notes that mobile wireless licensees often establish their own “guard bands” at the edges of their licensed spectrum in order to avoid adjacent channel interference, and suggests that licensees should have the flexibility to determine on their own – consistent with sound RF engineering principles and the capabilities of their networks – what steps are necessary to avoid harmful interference to adjacent channel broadcasters.⁶⁹ Similarly, MSTV suggests that enforcement of out-of-band emission limits would be more effective than the establishment of a guard band or separate allocation.⁷⁰ By contrast, HIC (supported by Cox) suggests an aggressive approach to ensure total protection of DTV operations on core Channel 51, including adoption of a guard band and interference protection criteria for channels located within and adjacent to the Lower 700 MHz Band.⁷¹

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

⁶⁹ Qwest Comments at 3.

⁷⁰ MSTV Comments at 6-7.

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

⁷² *See infra* section III.A.2.b.

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

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

⁷⁵ Qwest Comments at 3.

c. Low Power Television Service and Television Translators

24. Background. In the *Notice*, the Commission asked how the allocation and service rules it adopts should affect LPTV and television translators⁷⁶ operating in the Lower 700 MHz Band. As an initial matter, the Commission previously determined that there is insufficient spectrum to preserve all existing LPTV stations, and noted that LPTV will retain its secondary allocation status.⁷⁷ It also allowed LPTV stations on both the Channel 60-69 and Channel 52-59 bands to file displacement relief applications requesting a lower channel.⁷⁸

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

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

27. Discussion. We are adopting the proposals for LPTV set forth in the *Notice*. Specifically, we are prohibiting LPTV stations, licensed under our existing rule in Part 74 Subpart G, from causing harmful interference to stations of primary services – including new licensees in the band.⁸³ We believe

⁷⁶ We recognize that LPTV stations and TV translators have distinct functions and unique programming characteristics. However, they are both low power broadcasting services that operate on a secondary status with the same power limits and are otherwise technically equivalent. Therefore, for purposes of our technical analysis within this proceeding, we do not distinguish between the two and, as a general reference, we refer to them collectively as “LPTV.”

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

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

⁷⁹ *Notice*, 16 FCC Rcd at 7288 ¶ 18.

⁸⁰ *Id.*

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

⁸² KM Comments at 2.

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

that this decision is consistent with the secondary status of LPTV, and will promote the deployment of new services anticipated for the band. However, we will allow LPTV stations to operate until they cause actual interference to a DTV station or new licensee and will allow LPTV stations to negotiate interference agreements with new service providers.

28. We conclude that this approach appropriately balances two largely conflicting interests. Section 337(e)(2) of the Communications Act states that after allocating the Upper 700 MHz Band, the Commission “shall seek to assure . . . that each qualifying low-power television station is assigned a frequency below 746 MHz to permit the continued operation of such station.”⁸⁴ However, LPTV operators in the Lower 700 MHz Band must be prepared to cease service once television Channels 52-59 are reclaimed, pursuant to Section 309(j)(14) of the Communications Act, when new licensees (who will have primary status) begin using the band. Congress has recognized – and the Commission has repeatedly noted – that not all LPTV stations can be guaranteed a certain future due to the emerging DTV service, and we do not think it is advisable to defer the ultimate displacement of LPTV operations to the detriment of new primary service licensees in the band.⁸⁵ To grant LPTV operations special considerations vis-à-vis new licensees would turn the concept of secondary status upside down and would retard the potential development of new and innovative services.

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

30. LPTV entities with operations on Channels 52-59 must recognize the possibility that a primary licensee can initiate service in the band. KNME, a New Mexico public television entity, states that, because its DTV transition plan includes extensive use of translators to provide wide-area coverage, public television services in New Mexico and many other states will be threatened if new licensees are permitted to use the band on a primary basis.⁸⁷ Cox argues that the rules should ensure that LPTV and TV translator stations operating in the Lower 700 MHz Band are protected from interference by new licensees.⁸⁸ We acknowledge these concerns, but also note that LPTV licensees have been aware of their secondary status throughout the transition. In the *DTV Sixth Report and Order*, which was released in 1997, the Commission stated that “[w]e also note that as secondary operations, LPTV and TV translator stations will be able to continue to operate until a displacing DTV station or a new primary service provider is operational and would receive interference from the low power TV or TV translator station.”⁸⁹ The *DTV Sixth Report and Order* also identified the core DTV spectrum to consist of those TV channels below Channel 52.⁹⁰ The requirement to auction reclaimed spectrum has also been in place

⁸⁴ 47 U.S.C. § 337(e)(2).

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

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

⁸⁷ KNME Comments at 2-3.

⁸⁸ Cox Reply at 4-7.

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

⁹⁰ *Id.* at 14627 ¶ 83.

since 1997.⁹¹ Notwithstanding these facts, we expect that many LPTV licensees will be able to continue to operate in the band for some time to come.⁹² We have taken steps to allow continued LPTV operation, including allowing LPTV licensees to remain in the band until they actually cause interference and permitting LPTV operators to negotiate with new licensees for interference protection agreements. Given KNME's description of its transition facilities, we are also encouraged that it may be able to readily reconfigure its TV translator transmitters to operate on a core channel, if one is available.⁹³

31. We also reject those comments that suggest that some LPTV stations should receive the same protection from displacement and interference as full power television stations because of the Commission's obligations with respect to Class A status.⁹⁴ KM says these stations should receive the same protection from displacement and interference as full power television stations because the Commission is required by statute to do so.⁹⁵ KM also contends that Class A-eligible stations should be protected during the Channel 52-59 reallocation, as the Commission is required to "seek to assure, consistent with the Commission's plan for allotments in the [DTV] service, that each qualifying [LPTV] station is assigned a frequency below 746 megahertz to permit the continued operation of such station."⁹⁶ Although KM correctly notes that the Commission is required to "act to preserve the service areas of [LPTV] licensees pending the final resolution of a Class A application," we find that provision inapplicable as KM would have it applied.⁹⁷ Only LPTV stations operating in the core spectrum may obtain Class A licenses.⁹⁸ Although the Commission and Congress undertook steps to facilitate the relocation of licensees operating between 698 and 806 MHz to core spectrum – whereupon they may apply for Class A licenses,⁹⁹ such licensees legally eligible for Class A status may not obtain Class A

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

⁹² We note that the Commission has previously distinguished the Upper 700 MHz Band, in which we anticipate an early recovery of spectrum relative to the Lower 700 MHz Band, which will likely be significantly encumbered throughout the transition. While a later recovery of the Lower 700 MHz Band may permit LPTV licensees to operate for a longer period without being displaced by new licensees in the band, the time period for recovery does not change the secondary status of LPTV. Section 309(j)(14) of the Act envisions that the Commission will complete the assignment of new licenses in the band by September 30, 2002, and secondary licensees must be prepared for new licensees in the band by that date regardless of whether we anticipate the band as a whole will be recovered at an early or late stage of the DTV transition. Thus, we find KNME's discussion of the time period for recovery of the band inapposite to the issue of LPTV secondary status. *See, e.g.,* KNME Comments at 2.

⁹³ *See* KNME Comments at 2.

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

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

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

⁹⁷ KM Comments at 4-5.

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

⁹⁹ The Commission has allowed for the filing of displacement applications for 700 MHz LPTV licensees regardless of whether actual interference exists. Furthermore, the Commission is required to provide licensees in the 700 (continued....)

licenses without first receiving a construction permit for a channel in the core band. Given this intervening step and the clear mandate from Congress that licensees in the 700 MHz Band may not receive a Class A license (and concurrent mandate that we make the band available to new licensees), we do not read this provision as requiring us to protect LPTV operations in the 700 MHz Band.¹⁰⁰ Instead, the protection we must afford in this case relates to the in-core spectrum subsequently authorized to the licensee.

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

33. Finally, SBE asks us to also afford continued secondary status to Part 74 low power broadcast auxiliary devices (such as wireless microphones) operating in the Lower 700 MHz Band, and to establish a new service in Part 95 of our Rules to accommodate their use.¹⁰⁵ We reject these proposals as being outside the scope of this proceeding. We conclude that the type of comprehensive evaluation of these devices that SBE proposes is not served in this proceeding, where the Commission has neither

(Continued from previous page) _____

MHz Band “the opportunity to meet the qualification requirements for a class A license,” 47 U.S.C. § 336 (f)(6)(A). If a so-qualified licensee is assigned a channel in the core spectrum, we are required to “issue a class A license simultaneously with the assignment of such channel.” *Id.*

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

¹⁰¹ WLNY-TV Comments at 4.

¹⁰² *Id.* at 3-4.

¹⁰³ *Id.* at 3-7.

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

¹⁰⁵ SBE Comments at 4-5.

solicited nor developed a record on this issue.¹⁰⁶ We further note that, insofar that the Lower 700 MHz Band will host extensive broadcast use throughout the DTV transition, it is unlikely that new licensees will rapidly occupy the band to the extent that users of the low power broadcast auxiliary devices of the type SBE discusses will have to immediately cease all operation.

d. Satellite Services

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

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

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

2. Transition Issues

a. Incumbent Broadcasters

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

38. New licensees will also need to take into account the large number of digital broadcasters

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

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

¹⁰⁸ Qwest Comments at 6.

¹⁰⁹ See *supra* para. 15.

¹¹⁰ See APTS Comments at 3.

who will operate in the Lower 700 MHz Band during the transition. On average, there are slightly more than ten times the number of digital stations per channel on Channels 52-59 as compared to Channels 60-69.¹¹¹ While the planning for the DTV Table of Allotments sought to minimize use of out-of-core channels, the Commission was unable to accommodate a second digital channel for all broadcasters within the “core” broadcast spectrum. The degree of incumbency in the Lower 700 MHz Band – consisting of both digital and analog broadcasters – is likely to make it far more difficult for new services to operate in this band, particularly in major metropolitan markets, prior to the end of the transition. The degree of incumbency in this band also underscores the importance of adopting rules that insure that new licensees provide adequate protection to incumbent broadcasters. We emphasize that we have an obligation to fully protect incumbent full-power analog and digital broadcasters during the transition period, and adopt rules that support this core value.

(i) Analog Stations

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

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

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

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

¹¹³ *Id.*

¹¹⁴ 47 C.F.R. § 73.3598.

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

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

allotments.¹¹⁷ Other parties submitted rulemaking petitions to specify a channel in the Lower 700 MHz Band under a second filing period that allowed persons with certain pending requests for new analog stations to modify their requests, if possible, to eliminate technical conflicts with DTV stations and to move from the Upper 700 MHz Band.¹¹⁸ This second filing period opened on November 22, 1999, and closed on July 17, 2000.¹¹⁹ The Commission based these actions on its recognition that those persons with pending applications and/or petitions for new full-service analog television stations on channels had already invested time, money, and effort into their applications and petitions.¹²⁰ These filing periods were established after the Commission had reallocated the Upper 700 MHz Band but before this proceeding was initiated. Thus, applicants were permitted to select channels in the Lower 700 MHz Band.

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

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

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

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

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

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

¹²² *Id.*

parties to file channel allotment rulemaking petitions to specify another channel, if available.¹²³

42. The majority of those commenters who address this issue support measures to grant pending applications. Only CTIA and Qwest, both of which actively support the entry of new services into the band, express reservations with further station authorizations. CTIA argues that by authorizing new stations, the Commission would contribute to the complexity of and delay clearing of the Lower 700 MHz Band.¹²⁴ It suggests that we dismiss pending applications, or require applicants to propose a channel below Channel 52.¹²⁵ Qwest asks that we minimize additional incumbency in the band “consistent with existing licensees’ and applicants’ statutory rights.”¹²⁶ Several commenters urge us to grant the pending applications.¹²⁷ They cite a number of factors to support their claim that the public interest favors license grants, including applicants’ expense in pursuing their applications,¹²⁸ the length of time some of the applications have been on file with the Commission,¹²⁹ and the history of the DTV transition and Upper and Lower 700 MHz Band proceedings – including the Commission’s past actions that permitted applicants to propose replacement allotments in the Lower 700 MHz Band.¹³⁰ These commenters submit that, due to the incumbency in the band, granting the pending applications would have a “marginal” effect,¹³¹ and predict little negative impact on our efforts to clear the band and to facilitate the provision of new wireless services,¹³² or the DTV transition.¹³³ Several commenters identify independent public interest benefits in new analog stations, including increased viewpoint diversity in the television market,¹³⁴ additional sources of vital local information,¹³⁵ new opportunities for network affiliations for smaller networks,¹³⁶ and additional competition in the local advertising market.¹³⁷ Finally, several commenters predict that the Lower 700 MHz Band auction will be postponed, and suggested that

¹²³ *Id.*

¹²⁴ CTIA Comments at 3.

¹²⁵ *Id.*

¹²⁶ Qwest Comments at 4.

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

¹²⁸ Paxson Reply at 7-8.

¹²⁹ Davis Comments at 6.

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

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

¹³² WB Comments at 9.

¹³³ Pappas Comments at 4.

¹³⁴ TCC Comments at 5.

¹³⁵ Pappas Comments at 5.

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

¹³⁷ TCC Comments at 5.

that possibility should alter our approach in favor of the grant of pending applications.¹³⁸

43. Commenters supporting favorable treatment of the pending applications also suggest that we should allow applicants broad leeway to further amend their existing applications. They state that such amendments would eliminate conflicts with other mutually exclusive applications and permit other curative amendments.¹³⁹ This approach would avoid the delay that would otherwise result from holding a contested allotment rulemaking proceeding,¹⁴⁰ and would serve the interest of equity,¹⁴¹ they claim. These commenters also support Commission grant of waivers for short-spaced analog allotment proposals,¹⁴² and WB believes that applicants should be permitted to amend analog proposals to allow for digital operations outside the core.¹⁴³

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

45. With regard to applications for construction permits, we recognize parties have made

¹³⁸ Pappas Comments at 4. WB Comments at 28.

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

¹⁴⁰ WB Comments at 20.

¹⁴¹ TCC Comments at 5.

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

¹⁴³ WB Comments at 13 & 15.

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

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

¹⁴⁶ *See* 47 U.S.C. § 309 (j) (14).

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

investments in these applications and that they are generally further along in the regulatory process and thus could potentially provide service to the public on a more near-term basis. We believe that these applications can be processed in a manner consistent with our DTV transition policies. However, as noted above, we do not believe that deploying service in analog format is consistent with our statutory mandate to reclaim this spectrum for new services or our DTV transition policies. Authorizing additional analog television operations at this stage in the DTV transition, when we are near the date when commercial broadcast stations are required to be operating on their digital allotments – *i.e.* May 1, 2002 – would be inconsistent with our goal of achieving a rapid conclusion of the transition. In this regard, we do not wish to encourage the expansion of analog television service. Digital deployment on the allotments for which we have pending analog applications will introduce new digital services and promote the acquisition of digital receiving equipment by consumers. In addition, this approach will avoid the complications that could arise in requiring licensees to convert their analog operation to digital operation relatively soon after they commence analog operation. Further, we believe that new service providers may be able to co-exist more easily with digital television stations given that such stations operate with lower power and their signals may generally be less susceptible to interference than analog television signals. Accordingly, we are providing a 45-day opportunity for these applicants to request a change in their pending applications for a construction permit or petition for rule making.¹⁴⁸ The 45-day window will be effective upon release of this Report and Order. Applications can be modified in one of two ways: (1) to provide analog or digital service in the core television spectrum, *i.e.*, channels 2-51 or (2) to provide digital service in the 698-740 MHz band, *i.e.*, channels 52-58.¹⁴⁹ At the end of the 45-day period, we will dismiss any pending application that does not meet either of the above conditions. Finally, because of the adjacent channel interference that new stations on channel 59 could cause to new licensees in the adjacent Upper 700 MHz Band, the Commission will no longer accept or grant any application for channel 59, and parties with outstanding applications that specify channel 59 and who have not yet filed a channel allotment rulemaking petition to specify another channel must do so within the 45-day period. We will also amend our Section 73.622(a)(2) of our Rules to specify that petitions requesting a change in the channel of an initial DTV allotment may only be amended to specify channels 2-58.

(ii) Low Power Stations

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

47. Discussion. KM proposes that the Commission continue to accept and process applications for additional LPTV stations in this band.¹⁵¹ To ensure the continuation of television service, we will

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

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

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

¹⁵¹ KM Comments at 2.