

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Reallocation and Services Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59))	GN Docket No. 01-74
)	
Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions of Part 27 of the Commission’s Rules)	WT Docket No. 99-168
)	

To: The Commission

**COMMENTS OF
THE RURAL TELECOMMUNICATIONS GROUP, INC. IN SUPPORT OF
MODIFICATION OF LICENSE AREA SIZE FOR 700 MHZ SPECTRUM**

The Rural Telecommunications Group, Inc. (“RTG”),¹ by its attorneys, hereby supports the petition filed by the Rural Cellular Association (“RCA”) seeking modification of the service area size for geographic licenses yet to be auctioned in the Lower and Upper 700 MHz bands.² Specifically, RTG supports auctioning additional spectrum in the 700 MHz bands on the basis of Metropolitan Statistical Areas (“MSAs”) and Rural Service Areas (“RSAs”) (collectively

¹ RTG is a Section 501(c)(6) trade association dedicated to promoting wireless opportunities for rural telecommunications companies through advocacy and education in a manner that best represents the interests of its membership. RTG’s members have joined together to speed delivery of new, efficient, and innovative telecommunications technologies to the populations of remote and underserved sections of the country. RTG’s members are small, rural businesses serving or seeking to serve secondary, tertiary and rural markets. RTG’s members are comprised of both independent wireless carriers and wireless carriers that are affiliated with rural telephone companies.

² See Petition To Institute Review and Modification of the Size of Service Areas for Geographic Licensing for the Lower and Upper Bands of 700 MHz Spectrum Not Yet Auctioned, filed July 29, 2005 in GN Docket No. 01-74 and WT Docket 99-168 (“Petition”).

Cellular Market Areas (“CMAs”)) and hereby proposes new bandplans, depicted on the attached charts, for future licensing of the Lower and Upper 700 MHz bands.

I. Changed Circumstances Warrant Reexamination and Revision of the Size of Service Areas for Geographic Area Licensing of 700 MHz Band Spectrum

Circumstances have changed dramatically since the Federal Communications Commission (“FCC” or “Commission”) adopted the licensing schemes for the Upper and Lower 700 MHz bands in 2000 and 2001, respectively.³ These changes—particularly the circumstances underlying the Commission’s Upper 700 MHz licensing approach—warrant the Commission revisiting and modifying the size of the geographic areas on which future 700 MHz licenses will be auctioned.

First, when the Commission adopted the licensing rules for the Upper 700 MHz band in January of 2000, the Commission was under a statutory deadline to auction the spectrum and to ensure that the proceeds from the auction were deposited in the U.S. Treasury by September 30, 2000.⁴ Accordingly, the Commission was under tremendous time pressure to adopt service and auction rules and to conduct, complete, and collect the proceeds from the auction of Upper 700 MHz spectrum.

This looming statutory deadline was one of the significant factors on which the Commission relied in reaching its determination to auction the thirty megahertz of Upper 700

³ See Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission’s Rules, WT Docket No. 99-168, First Report and Order, 15 FCC Rcd 476 (2000) (“*Upper 700 MHz First Report and Order*”), *subsequent history omitted*; Reallocation and Service Rules for the 698-746 Spectrum MHz Band (Television Channels 52-59), GN Docket No. 01-74, Report and Order, FCC 01-364, 17 FCC Rcd 1022 (2002) (“*Lower 700 MHz Report and Order*”), Erratum, 17 FCC Rcd 2152 (2002).

⁴ See *Upper 700 MHz First Report and Order* ¶ 5; P.L. 106-113, 113 Stat 1501, Appendix E, Section 213.

MHz commercial spectrum (excluding the guard bands) on the basis of Economic Area Groupings (“EAGs”), of which there are only six in the country.⁵ The Commission specifically stated that it was “mindful” of its statutory obligation to conduct the auction and to ensure that all proceeds were deposited by September 30, 2000 and that the Commission’s experience in previous auctions had “shown that simultaneous multiple-round auctions for a larger number of licenses are more complex and take longer to complete than similar auctions involving fewer licenses.”⁶

The Commission, however, is no longer under a statutory deadline to auction 700 MHz spectrum.⁷ At this time, it is apparent that the Commission will conduct the auction for Advanced Wireless Services (“AWS”) before any auction of 700 MHz spectrum.⁸ Accordingly, the Commission has sufficient time to reexamine its 700 MHz licensing decisions and to conduct an auction of 700 MHz spectrum using CMAs.

Second, the Commission rejected the use of smaller license areas in part to “help address the problems associated with incumbent TV stations in this band.”⁹ The Commission reasoned, “To license new spectrum in smaller areas would create many situations in which the protection

⁵ See *Upper 700 MHz First Report and Order* ¶¶ 57, 59.

⁶ *Id.* ¶ 57.

⁷ See Auction Reform Act of 2002, Pub. L. No. 107-195, 116 Stat. 715 (“Auction Reform Act”). The Auction Reform Act ordered the Commission to delay the A, B, and E block portion of Auction No. 44 (Lower 700 MHz) and the entire Auction No. 31 (Upper 700 MHz).

⁸ See “FCC to Commence Spectrum Auction That Will Provide American Consumers New Wireless Broadband Services,” News Release (Dec. 29, 2004) (FCC notifies the National Telecommunications and Information Administration (NTIA) that the Commission intends to auction licenses for Advanced Wireless Services as early as June 2006).

⁹ *Upper 700 MHz First Report and Order* ¶ 59.

zone would overlap the incumbent license areas or create the need for complicated protection agreements.”¹⁰

Although problems remain regarding incumbent TV stations in the band, the circumstances have changed significantly since 2000 and 2002. The industry is now four and a half years further into the digital television (“DTV”) transition than it was when the Commission initially adopted 700 MHz licensing rules. It is likely that Congress will establish a firm deadline for completing the DTV transition, and the broadcasters now recognize that they must complete the DTV transition and return the vacated analog spectrum. Moreover, it is unlikely that the Commission will auction additional 700 MHz spectrum, or that Congress would require or allow such an auction, without first resolving incumbency issues. Accordingly, problems associated with the DTV transition should no longer be a basis for rejecting the use of smaller license areas.

Third, when the Commission adopted the licensing schemes for the 700 MHz bands, the Commission had to predict what services the spectrum was likely to be used for and attempted to adopt licensing rules that would facilitate those predicted uses. Since those predictions, however, the Commission has licensed two blocks of Lower 700 MHz spectrum, vendors have been developing and selling equipment, business plans have been maturing, and licensees have been deploying systems. Because the Commission is no longer under a deadline to complete any 700 MHz auction, the Commission should refresh the record regarding the likely uses of 700 MHz spectrum and the appropriate size license areas to facilitate those uses.

¹⁰ *Id.*; see also *Lower 700 MHz Report and Order* ¶ 92 (use of larger areas avoids “the need for complicated agreements that could arise if spectrum were licensed in smaller areas where several geographic service areas could overlap a TV protection zone”).

The significant changes and developments since the adoption of 700 MHz licensing plans justify their reexamination. The Commission should reexamine the entire 700 MHz band in a comprehensive manner in light of developments since the adoption of Upper and Lower 700 MHz licensing schemes in 2000 and 2001.¹¹ Specifically, the Commission should reexamine the licensing plans in light of progress in the DTV transition, current Lower 700 MHz deployments, the allocation and anticipated auction of AWS spectrum, and recent developments in equipment and service development.

Reexamining future 700 MHz licensing would be consistent with recent Commission licensing decisions. Subsequent to the Commission's adoption of the Upper 700 MHz licensing plan, the Commission has recognized the benefits of licensing spectrum on the basis of CMAs. For example, the Commission recently determined that it will license 20 megahertz of AWS spectrum on the basis of CMAs.¹² The Commission's consideration of allocating at least one block of Upper 700 MHz spectrum on a CMA-basis instead of all EAGs also would be consistent with the Commission's recent determination to "consider licensing the spectrum over a range of various sized geographic areas, including smaller service areas such as MSAs/RSAs..."¹³

¹¹ Although the Commission wisely did allocate one Lower 700 MHz block on the basis of CMAs, the Commission's Lower 700 MHz band licensing scheme was heavily influenced by its previously determined Upper 700 MHz scheme. See *Lower 700 MHz Report and Order* ¶ 91 (use of EAGs for Lower 700 MHz "complements the approach used for the Upper 700 MHz Commercial Band"). Due to developments regarding the Upper 700 MHz band and other industry-wide developments, the Commission should reexamine both the Upper and Lower 700 MHz licensing plans.

¹² See *in re* Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands, Order on Reconsideration in WT Docket No. 02-353, FCC 05-149 ¶¶ 14, 20 (rel. August 15, 2005) ("*AWS Order*").

¹³ *Facilitating the Provision of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Telephone Companies To Provide Spectrum-Based Services, Report and Order and Further Notice of Proposed Rulemaking*, 19 FCC Rcd 19078, ¶ 31 (2004).

II. Licensing the 700 MHz Bands on the Basis of CMAs Will Promote the Deployment of Advanced Services to Rural Areas and the Participation by Small and Rural Businesses

RTG agrees with RCA that licensing additional 700 MHz spectrum on the basis of CMAs will create opportunities for small and rural businesses and will foster the deployment of competitive wireless broadband services in rural areas. RTG agrees that licensing the service by RSAs is particularly important because it will allow small and rural companies to participate without disadvantaging larger entities that make a specific business decision to “pursue licenses for rural markets in addition to metropolitan markets.” Petition at p. 4. In the *AWS Order*, the Commission stated:

RSAs and MSAs allow entities to mix and match rural and urban areas according to their business plans and that, by being smaller, these types of geographic service areas provide entry opportunities for smaller carriers, new entrants, and rural telephone companies.¹⁴

The use of smaller geographic license areas, particularly RSAs, will enable rural telephone companies and small businesses to have a meaningful chance of acquiring spectrum and providing service – a statutory obligation the Commission recognized in its *Lower 700 MHz Report and Order* when it explained,

MSAs and RSAs represent areas over which many customers may desire to receive the majority of their wireless or broadcast-type services and thus can be the focus of smaller carriers that do not wish to bid on or provide service to larger regions.¹⁵

By modifying its 700 MHz licensing plan to license additional blocks on the basis of CMAs the Commission will “promote ‘economic opportunity and competition’ and [] disseminate licenses ‘among a wide variety of applicants, including small businesses, rural

¹⁴ See *AWS Order* ¶ 14 (footnoted omitted).

¹⁵ *Lower 700 MHz Report and Order* ¶ 96.

telephone companies, and businesses owned by members of minority groups and women’.”¹⁶ RTG applauds the FCC’s recent efforts to promote the rapid development of new technologies and services in rural areas through the use of smaller geographic license areas in the Lower 700 MHz and AWS bands. RTG encourages the FCC to continue this approach by licensing additional 700 MHz spectrum on the basis of CMAs.¹⁷

III. The Commission Should License Two Additional 700 MHz Blocks on the Basis of CMAs

RTG requests that the Commission modify its 700 MHz licensing scheme to license an additional two blocks on the basis of CMAs. Specifically, as reflected on the attached charts, RTG proposes that the Commission license the C block in the Upper 700 MHz Band on the basis of CMAs rather than EAGs, and that the Commission license the B block in the Lower 700 MHz band on a CMA- rather than EAG-basis.

RTG recommends licensing the Upper 700 MHz C block in CMAs in order to afford prospective licensees maximum flexibility in both the Upper and Lower 700 MHz bands. RTG recognizes that—particularly with public safety allocations in the Upper 700 MHz bands—the Upper and Lower 700 MHz bands may develop at different rates and may be used to provide different services. Licensing one block on a CMA-basis will ensure participation in the Upper

¹⁶ *Lower 700 MHz Report and Order* ¶ 95, quoting 47 USC §309(j)(3)(B). In the *AWS Order*, the Commission specifically noted, “[T]he FCC Federal Advisory Committee on Diversity for Communications in the Digital Age adopted a recommendation that as a means to promote participation by minorities in emerging technology sectors of the communications industry, the Commission identify spectrum auctions whereby the licenses assigned cover small geographic areas such as MSAs and RSAs. *AWS Order* at note 50, citing New Technologies Subcommittee Recommendations to the Federal Communications Commission’s Advisory Committee on Diversity for Communications in the Digital Age, *Recommendations on Spectrum and Access to Capital* (rel. June 14, 2004).

¹⁷ See 47 U.S.C. § 309(j)(3)(A).

700 MHz band by small and rural companies and will encourage the deployment of services utilizing this spectrum in rural areas. Licensing one block on a CMA-basis also will foster the development of interoperable equipment in both bands and will facilitate efficiencies, including economies of scale.

RTG proposes licensing the Lower 700 MHz B block in CMAs to allow existing Lower 700 MHz C block licensees the flexibility of augmenting their spectrum with adjacent bandwidth for a combined 24-megahertz block of spectrum (two paired 12-megahertz blocks). This will allow licensees greater flexibility to deploy bandwidth intensive services such as high-speed Internet access. Licensees deploying service using the twelve-megahertz C block licenses will need additional bandwidth to ensure adequate throughput capacity necessary for future growth and to accommodate the diverse technologies that are available.

As the Lower 700 MHz C block licensees deploy networks and the demand for broadband over these networks grows, the useable throughput available over the two, paired six megahertz C-block bands will be exhausted. While this may be especially true for systems that utilize frequency division-multiplexing (“FDD”),¹⁸ due to limitations based on proprietary channel spacing and intra-system interference specifications, even in systems based on time division multiplexing (“TDD”), the maximum number of usable channels are limited, and careful frequency planning is still necessary.

¹⁸ For example, because it can be integrated easily with existing cable television infrastructure, many licensees are currently deploying Lower 700 MHz C-block equipment based on the DOCSIS standard. While this 700 MHz equipment is relatively inexpensive as an add-on to an existing network, its RF section is based on TDMA technology and it utilizes the spectrum resource by applying an FDD scheme. This scheme separates the available bandwidth into sub-channels of smaller bandwidth for use on the uplink and downlink communication channels to the subscribers. As a result, careful frequency planning is necessary and frequency re-use (and available bandwidth) is dependent on the channel bandwidth selection and the available spectrum within the paired C-block allocation.

Moreover, because many different services, standards, and technologies are competing in the 700 MHz bands, licensees will have to manage their market borders using spectrum management techniques similar to those presently used in the cellular and personal communications services (“PCS”) industry. For example, along numerous cellular/PCS market borders, spectrum clearing—in which each licensee agrees not to use certain overlapping channels—is required to mitigate interference between competing co-channel technologies such as GSM and CDMA. The need for spectrum clearing effectively reduces the availability of bandwidth by 50% for the carriers. Therefore, additional spectrum in the Lower 700 MHz band may be an absolute necessity for many Lower 700 MHz licensees to support effective deployment of broadband service to the rural community.

* * *

As discussed herein, circumstances have changed dramatically since the Commission adopted the licensing plans for the Lower and Upper 700 MHz spectrum. In light of these changed circumstances and new developments, the Commission should reexamine the licensing scheme for Lower and Upper 700 MHz spectrum that has not yet been auctioned. Pursuant to that reexamination, the Commission should license an additional two blocks of 700 MHz spectrum on the basis of CMAs. Licensing additional spectrum on a CMA-basis will promote competition in and the deployment of spectrum-based services to rural areas and will “disseminate licenses ‘among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women’.”¹⁹

¹⁹ *Lower 700 MHz Report and Order* ¶ 95, quoting 47 USC §309(j)(3)(B).

Accordingly, for the reasons stated above and in the Petition, RTG respectfully requests that the Commission reexamine the licensing of Lower and Upper 700 MHz spectrum, and that the Commission license an additional two blocks of 700 MHz spectrum on the basis of CMAs.

Respectfully Submitted,

**RURAL TELECOMMUNICATIONS
GROUP, INC.**

By: _____/s/_____

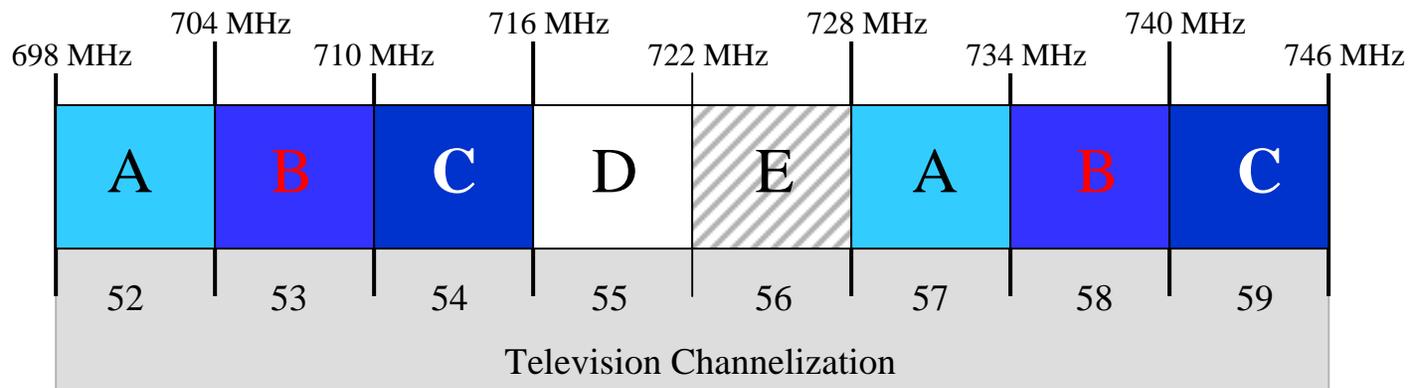
Caressa D. Bennet
Gregory W. Whiteaker
Bennet & Bennet, PLLC
10 G Street, N.E.
Seventh Floor
Washington, DC 20002
(202) 371-1500

Its Attorneys

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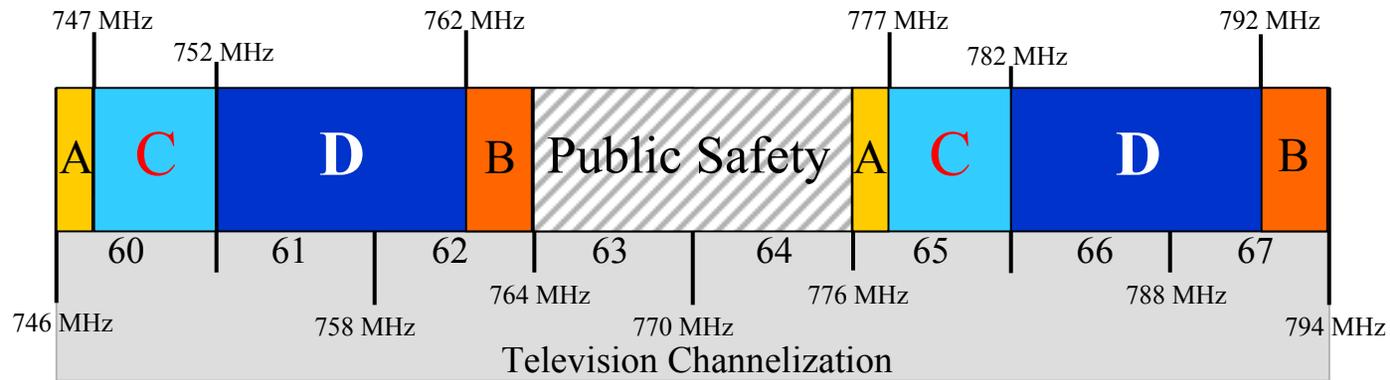
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RTG's Proposed Lower 700 MHz Bandplan



<u>Block</u>	<u>Frequencies (MHz)</u>	<u>Bandwidth</u>	<u>Pairing</u>	<u>Geographic Area Type</u>	<u>No. of Licenses</u>
A	698-704, 728-734	12 MHz	2 x 6 MHz	700 MHz EAG	6
B	704-710, 734-740	12 MHz	2 x 6 MHz	MSA/RSA	734
C	710-716, 740-746	12 MHz	2 x 6 MHz	MSA/RSA	734
D	716-722	6 MHz	unpaired	700 MHz EAG	6
E	722-728	6 MHz	unpaired	700 MHz EAG	6

RTG's Proposed Upper 700 MHz Bandplan



<u>Block</u>	<u>Frequencies (MHz)</u>	<u>Bandwidth</u>	<u>Pairing</u>	<u>Geographic Area Type</u>	<u>No. of Licenses</u>
A (Guard Band)	746-747, 776-777	2 MHz	2 x 1 MHz	Major Economic Areas	52
B (Guard Band)	762-764, 792-794	4 MHz	2 x 2 MHz	Major Economic Areas	52
C	747-752, 777-782	10 MHz	2 x 5 MHz	MSA/RSA	734
D	752-762, 782-792	20 MHz	2 x 10 MHz	700 MHz EAG	6