

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)

Additional Spectrum for Unlicensed Devices)
Below 900 MHz and in the 3 GHz Band)

ET Docket No. 02-380

To: The Commission

REPLY COMMENTS OF THE RURAL 700 MHz BAND LICENSEES

The Rural 700 MHz Band Licensees, by their attorneys, hereby submit these reply comments to the *Notice of Inquiry* in the above-captioned docket.¹ A list of the rural telephone companies, cooperatives and rural telco subsidiary companies that comprise the “Rural 700 MHz Band Licensees” is attached below.

A majority of commenters to the *NOI*, including the Rural 700 MHz Band Licensees, have significant reservations about the feasibility of allowing unlicensed devices to share the TV broadcast bands² without causing interference to licensed mobile radio operations. While no commenters doubt that there could be significant benefits to the economy, businesses and the general public in making additional spectrum available for unlicensed transmitters, the record in this proceeding does not support permitting

¹ In the Matter of Additional Spectrum of Unlicensed Devices Below 900 MHz and in the 3 GHz Band, *Notice of Inquiry*, ET Docket No. 02-380 (*rel.*, December 20, 2002) (“*NOI*”). The comment and reply deadlines in this proceeding were initially set at April 7, 2003 and May 6, 2003, respectively, by publication of the in the *NOI* in the *Federal Register*. See 68 FR 2730 (January 21, 2003). The Office of Engineering and Technology recently extended these deadlines by ten (10) days. See *Order Granting Extension of Time*, DA 03-1022 (*rel.* March 31, 2003).

² As used in the *NOI*, the term “TV broadcast bands” refers to the 402 MHz of spectrum allocated to the broadcast services at 54-72 MHz, 76-88 MHz, 174-216 MHz, 470-608 MHz and 614-806 MHz. The band 470-512 MHz is allocated to the land mobile and commercial mobile radio services in 13 cities, and the broadcast auxiliary service also operates on certain channels in the TV broadcast bands.

unlicensed use of the 54-72 MHz, the 470-512 MHz or the 698-806 MHz bands (*i.e.*, TV channels 2-4, 14-20 or 52-69) under any circumstances. The Commission should instead focus its efforts on completing the DTV transition as soon as possible, and identifying spectrum bands that can be dedicated solely to unlicensed use.

I. A Consensus of Commenters Urge the Commission Not to Permit Unlicensed Devices to Operate in Portions of the TV Broadcast Bands Where Mobile Operations Currently Exist or Will Soon Be Deployed.

A consensus of commenters in the mobile radio industry, including CMRS carriers and mobile radio equipment manufacturers, urge the Commission not to permit unlicensed devices to operate in the portions of the TV broadcast bands where mobile operations currently exist or will soon be deployed. This includes the 48 megahertz of spectrum that has recently been allocated to fixed and mobile services in the 698-746 MHz band (*i.e.*, TV channels 52-59) (the “Lower 700 MHz Band”). These commenters raise legitimate questions as to whether unlicensed devices can feasibly share spectrum with authorized services. As discussed below, the Rural 700 MHz Band Licensees agree with the majority of commenters in this proceeding who believe that the Commission’s first priority in determining whether unlicensed devices can be authorized to operate on additional frequency bands should be the prevention of interference to incumbent operations.

Groups representing a consensus of the mobile radio industry question whether unlicensed devices can utilize the TV broadcast bands without causing interference to authorized land mobile systems operating on in the 470-512 MHz band (the “T-band”) in

major metropolitan areas.³ In particular, these commenters note that the technology to enable opportunistic, unlicensed devices to share bands with licensed incumbents without raising the risk of harmful interference is not yet available⁴ and that technical data available to the Commission does not support a determination that such technology is likely to be developed in the near future.⁵ These arguments apply with equal force to unlicensed operations in the Lower 700 MHz band. In this regard, the Rural 700 MHz Band Licensees want the FCC to take seriously Motorola’s contention that “there is no readily apparent technological solution that would enable unlicensed secondary use without causing harmful interference to licensed [mobile] services.”⁶ While the Lower 700 MHz Band radio service is new, and commercial networks utilizing these frequencies have not yet been deployed, the spectrum band has been allocated for both fixed and mobile services. Allowing unlicensed devices to use Lower 700 MHz Band channels could make it difficult, if not impossible, for licensees to deploy networks that utilize licensed 700 MHz spectrum as the FCC and Congress have intended.

The Rural 700 MHz Band Licensees also agree with commenters who point out that it would be difficult, if not impossible, to recall or to regulate unlicensed devices once they are released into the marketplace.⁷ The fact that users are unlicensed only

³ See, e.g., Comments of American Mobile Telecommunications Association (“AMTA Comments”) at 2-4, Comments of APCO (APCO Comments”) at 1-3, Comments of Atlantic Telecommunications (“Atlantic Comments”) at 1-2, Comments of Los Angeles County (“LA County Comments”) at 3-4, Comments of Land Mobile Communications Council (“LMCC Comments”) at 4-7, Comments of Motorola, Inc. (“Motorola Comments”) at 5-7, Comments of Port Authority of New York and New Jersey (“Port Authority Comments”) at 2-4.

⁴ AMTA Comments at 3 (citing comments TIA and Motorola in the Spectrum Policy Task Force proceeding, ET Docket No. 02-135), LMCC Comments at 4-5.

⁵ LMCC Comments at 4.

⁶ Motorola Comments at 5.

⁷ AMTA Comments at 3.

makes it more difficult for affected licensees to identify the source of interference, and difficult for the FCC to stop them.⁸ Moreover, APCO correctly notes that there is no effective means of restricting where an unlicensed device is used.⁹ Given the tremendous growth of Wi-Fi and other unlicensed wireless technologies recently, the Commission must be extremely careful of “letting the genie out of the bottle” before it has unequivocal proof that licensed operations will not be affected. Allowing unlicensed devices to utilize channels that are currently licensed or that have been allocated for mobile use would risk saturating the spectrum to the point of failure – what the FCC’s Spectrum Policy Task Force aptly termed as “a tragedy of the commons.”¹⁰

Some manufacturers of wireless equipment and unlicensed spectrum advocates argue that unlicensed devices should be permitted to operate within the TV broadcast bands “to the maximum extent possible.”¹¹ Indeed, NAF contends that under utilization on channels 52-69 is “huge” and that this spectrum could be used “immediately” by unlicensed devices.¹² Such arguments simply ignore the fact that significant portions of this spectrum have been reallocated for commercial and public safety mobile operations since 1997, and that mobile systems, including public safety operations, will soon be deployed in these bands nationwide. In this regard, NAF’s suggestion that the entire 700

⁸ Atlantic Comments at 2; Comments of Cingular Wireless, LLC (“Cingular Comments”) at 9. Cingular correctly notes that “[a]s unlicensed devices proliferate and become accepted by the public, it may become politically untenable for the Commission to shut down the devices if they are causing interference.” *Id.*

⁹ APCO Comments at 3.

¹⁰ See Report of the Spectrum Policy Task Force, ET Docket No. 02-135 (November 2002) (“*SPTF Report*”) at p. 38.

¹¹ Comments of 802.18, the Radio Regulatory Technical Advisory Group within IEEE Local and Metropolitan Area Networks Standards Committee (“RR-TAG Comments”) at 3. Comments of the New America Foundation, *et. al.* (“NAF Comments”) at 6.

¹² NAF Comments at 9.

MHz band be devoted to unlicensed use after the transition to DTV is complete must be viewed as an untimely request to reconsider spectrum allocation issues that were decided in the Commission's *700 MHz Band Reallocation Orders*.¹³ The Rural 700 MHz Band Licensees urge the Commission not to be swayed by proposals such as these that ignore the Commission's obligation, first and foremost, "to maintain control of the United States over all the channels of radio transmission."¹⁴

Other commenters that support the ability for unlicensed devices to utilize spectrum in the TV broadcast bands appear to understand and accept the obligation of unlicensed spectrum users to protect licensed operations. These commenters have indicated that any implementation of unlicensed operations in the TV broadcast bands needs to be capable of fully protecting TV reception, even in the case of TV stations being moved and modified,¹⁵ and that protecting viewers' reception of broadcast television signals must be given priority.¹⁶ While these statements regarding the importance fully protecting TV reception are undoubtedly true, the Rural 700 MHz Band Licensees believe that the Information Technology Industry Council ("ITI") is more precise when it recognizes that unlicensed spectrum users have "an obligation to prevent harmful interference to current or future licensed services and government operations and to accept interference from these services and operations."¹⁷ The Rural 700 MHz Band

¹³ See Reallocation of Television Channels 60-69, the 746-806 MHz Band, ET Docket No. 97-157, *Report and Order*, 12 FCC Rcd 22,953 (1997); Reallocation and Service Rules for 698-746 MHz Spectrum Band (Television Channels 52-59), GN Docket no. 01-74, *Report and Order*, 17 FCC Rcd 1022 (2002), (collectively, the "*700 MHz Band Reallocation Orders*").

¹⁴ See 47 U.S.C. § 301, Cingular Comments at 2-4.

¹⁵ Joint Comments of Intersil Corporation and Symbol Technologies ("Intersil/Symbol Comments") at 2, 8-9.

¹⁶ Comments of Consumer Electronics Association ("CEA Comments") at 4.

¹⁷ ITI Comments at 5-6.

Licenses also agree with ITI that investment decisions by licensed spectrum holders will be affected by the FCC's policies and rules with respect to the unlicensed bands.¹⁸

II. The FCC's Main Focus Should Be Completing the DTV Transition and Clearing the Lower and Upper 700 MHz Bands of Incumbents

While many of the commenters in this proceeding would agree that identification of additional spectrum below 900 MHz for use by unlicensed devices is an important task, the Rural 700 MHz Band Licensees believe that the FCC's main focus with respect to the 698-746 and 746-806 MHz bands should be completion of the DTV transition and clearing the Lower and Upper 700 MHz Bands of incumbents.

Joint Commenters representing the TV broadcast industry believe that the possibility of allowing unlicensed devices to operate in "unused" portions of the TV broadcast bands poses a serious risk to the integrity of over-the-air broadcasting and would be especially problematic during the transition to digital television.¹⁹ The Rural 700 MHz Band Licensees believe that the Commission should not initiate any proceeding to allow unlicensed use of the TV broadcast bands if this could delay the DTV transition process. At this point, not enough is known about how the spectrum will be occupied after the DTV transition or how unlicensed devices would interact with the new technology.²⁰ Moreover, there may actually be fewer potentially "vacant" television channels available for unlicensed use after the DTV transition than suggested by the Commission, because Low Power Auxiliary Stations, TV translators, boosters, and other important secondary operations that are currently operating on channels 52-69 will need

¹⁸ *Id.* at 6.

¹⁹ Joint Comments of The Association for Maximum Service Television, *et. al.* ("MSTV Comments") at 2-7, 8-13.

to be accommodated in the core TV channels.²¹ The Rural 700 MHz Band Licensees agree with Shure that “the establishment of a ‘Spectrum Commons’ underlay permitting unlicensed devices to operate within the television broadcast bands could result in interference problems on a grand scale.”²² Even if “frequency agile” equipment is used, an unlicensed device may sense that a shared private radio channel is clear and begin using it, and such unlicensed operations could prevent licensed users from using the spectrum.²³ Given these uncertainties, the Rural 700 MHz Band Licensees must agree with MSTV that “[t]he costs and risks of introducing unlicensed devices into the broadcast band at this time strongly outweigh the limited benefits.”²⁴

III. Commenters Urge the FCC to Identify Additional Bands that Can Be Dedicated for Use By Unlicensed Devices

The Rural 700 MHz Band Licensees agree with commenters who believe that any additional allocation of unlicensed spectrum should come from bands that have been set aside for such use, thereby isolating unlicensed devices from bands in which licensees are entitled to operate on an exclusive basis without interference.²⁵ However, if there is to be any use of the TV broadcast bands by unlicensed devices, the Rural 700 MHz Band Licensees agree with Motorola that the 76-216 MHz and 512-698 MHz bands (*i.e.*, TV channels 5-13 and 21-51) would be the most appropriate for shared services with unlicensed devices, provided that the existing and future licensed users in such spectrum

²⁰ MSTV Comments at 2.

²¹ MSTV Comments at Comments of Shure Incorporated (“Shure Comments”) at 1.

²² Shure Comments at 15.

²³ *Id.* at 14.

²⁴ MSTV Comments at 2.

²⁵ Cingular Comments at 10.

are adequately protected.²⁶ This spectrum is not shared with other public safety and private radio services (as is the 470-512 MHz band), nor is it allocated for future use by public safety and commercial spectrum, as is the 698-806 MHz spectrum.²⁷

Unlicensed wireless advisory groups point to spectrum in the 5470-5725 MHz band, requested in “WECA Petition,” as appropriate for unlicensed wireless access systems²⁸ and wireless LAN equipment manufacturers believe that the 3650-3700 MHz band is well suited for unlicensed operations.²⁹ The Rural 700 MHz Band Licensees support these suggestions.

²⁶ Motorola Comments at 1, 3.

²⁷ *Id.*

²⁸ RR-TAG Comments at 3.

²⁹ Intersil/Symbol Comments at 5-7.

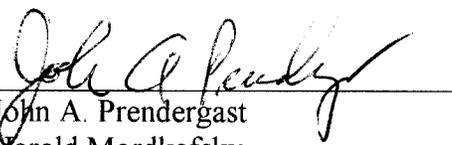
IV. Conclusion

For reasons stated above, the Rural 700 MHz Band Licensees urge the Commission not to initiate any proceeding that would permit unlicensed operations on the 48 megahertz of spectrum that has recently been reallocated to fixed and mobile services in the Lower 700 MHz Band; and to refrain from any proceeding to allow unlicensed use of the TV broadcast bands, if this could in any way delay or add expense to the DTV transition process.

Respectfully Submitted,

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Attachment A

A list of the rural telephone companies, cooperatives and rural telco subsidiary companies that comprise the “Rural 700 MHz Band Licensees” is provided below.

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- Allcom Communications, Inc.
- Cameron Communications Corporation
- CTC Telcom, Inc.
- Dickey Rural Services, Inc.
- Eastern Colorado Wireless Partnership
- First Cellular of Southern Illinois
- Kennebec Telephone Company
- North Dakota Network Company
- PVT Networks, Inc.
- Webster Calhoun Cooperative Telephone Association

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