

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

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
Establishing Just and Reasonable Rates for Local Exchange Carriers	)	WC Docket No. 07-135
	)	
High-Cost Universal Service Support	)	WC Docket No. 05-337
	)	
Developing an Unified Intercarrier Compensation Regime	)	CC Docket No. 01-92
	)	
Federal-State Joint Board on Universal Service	)	CC Docket No. 96-45
	)	
Lifeline and Line-Up	)	WC Docket No. 03-109
	)	
Universal Service Reform – Mobility Fund	)	WT Docket No. 10-208

**To: The Commission**

**PETITION FOR CLARIFICATION OR PARTIAL RECONSIDERATION OF  
TOWNES TELECOMMUNICATIONS, INC.**

Townes Telecommunications, Inc. (“Townes”), pursuant to Section 1.429 of the Commission’s Rules, hereby petitions for clarification and/or reconsideration of that portion of the Commission’s *Report and Order and Further Notice of Rulemaking*, FCC 11-161, released November 18, 2011 (“*Order*”),<sup>1</sup> in the captioned proceeding that adopts the “access to spectrum”

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<sup>1</sup> *Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing a Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link Up; Universal Service Reform – Mobility Fund; Report and Order and Further Notice of Proposed Rulemaking*, WC Dockets No. 10-90,

requirement for Phase I of the Mobility Fund. Townes asks the Commission to ensure that it and all other rural carriers will be able to take advantage of technologies that employ unlicensed spectrum to provide 3G or better wireless services.

### **I. Statement of Interest**

Townes is the parent company of eight small telecommunications carriers providing service in rural areas in the Southern, Eastern and Midwestern United States, including Missouri, Texas, Colorado, Kansas, Florida, Pennsylvania and Arkansas. Each carrier is a provider or reseller of wireless telecommunications and information services, or is planning to commence the provision of wireless services within the foreseeable future. The Townes carriers operate in sparsely populated areas scattered over seven states, providing high quality telecommunications services at reasonable rates. Townes seeks to use new technology to solve the problems created by operating in rural areas, often featuring rugged terrain and little in the way of wireless infrastructure.

Pursuant to an agreement entered into in April of 2009, Townes has been operating a trial network in Lewisville, Arkansas, pursuant to an experimental license, using *xMax*<sup>TM</sup> cognitive radio technology developed by xG Technology, Inc. (“xG Technology”). On March 15, 2011, xG Technology announced that it had entered into an agreement with Townes to expand the Lewisville trial network. Townes has also offered to host an additional *xMax*<sup>TM</sup> network in one of its other rural markets to test new features of the technology and to further demonstrate its interference avoidance and mitigation capabilities.

The *xMax* system is capable of achieving 3G data rates that exceed the 200 kbps specified in paragraph 361 of the *Order*. As stated on the xG Technology website:

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07-135, 05-337, 03-109; CC Dockets No. 01-92, 96-45; GN Docket No. 09-51; WT Docket No. 10-208, released November 18, 2011 (“*Order*”).

The baseline system supports up to 1Mbps aggregate per channel; with BPSK modulation and all 18 RF channels in use, the xMax system is capable of providing a total of 18Mbps. Higher rates are planned through adaptive modulation systems and channel bonding techniques, which have the potential to substantially increase data capability of the system.<sup>2</sup>

A more detailed description of how *xMax*<sup>TM</sup> works with unlicensed spectrum, a copy of the March 15, 2011 press release and other relevant information can be found at [www.xgtechnology.com](http://www.xgtechnology.com). Townes contemplates that eventually each of the Townes carriers will be able to utilize *xMax*<sup>TM</sup> to provide cost effective wireless broadband services, using unlicensed spectrum.

## **II. The Commission Should Clarify that Unlicensed Spectrum May Be Used to Provide Supported Mobility Fund Services.**

Townes respectfully requests that the Commission clarify the “spectrum availability” requirement associated with the Mobility Fund, to ensure that rural carriers can take advantage of technologies that employ unlicensed spectrum to provide 3G or better wireless services. Certain technologies, such as the *xMax*<sup>TM</sup> cognitive radio technology developed by xG Technology, offer a lower cost alternative for rural carriers to provide 3G (and eventually 4G) services. The Commission and Congress have recently recognized the vital role that unlicensed spectrum can play in rapidly expanding the availability of advanced telecommunications services to the public.<sup>3</sup>

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<sup>2</sup> [www.xgtechnology.com/Technology/xmax-physical-layer.html](http://www.xgtechnology.com/Technology/xmax-physical-layer.html).

<sup>3</sup> See, e.g., Statement from FCC Chairman Julius Genachowski on House Passage of Voluntary Incentive Auction Legislation, Press Release, December 13, 2011. (“Unlicensed spectrum stimulates innovation, investment, and job creation in many ways, including by providing startups with quick access to a testbed for spectrum that is used by millions, bringing new technologies to consumers in a rapid fashion.”)

The *Order* currently requires that Mobility Fund applicants certify that they have “access to spectrum” and would appear to allow applicants to use unlicensed spectrum, based on the Commission’s pronouncement that “we decline to restrict the frequencies applicants must use to be eligible for Mobility Fund Support . . .” so long as the chosen spectrum supports mobile broadband services.<sup>4</sup> However, while it is a somewhat vague, there is language in the Order that could be interpreted as requiring a Mobility Fund applicant to either hold a spectrum license or have a signed spectrum lease in hand. For instance, paragraph 393 states in pertinent part as follows:

In order to participate in a Mobility Fund auction and receive support, the Commission proposed in the *Mobility Fund NPRM* that an entity must hold, or otherwise have access to, a Commission authorization to provide service in a frequency band that can support 3G or better services. [Underlining added]

Similarly, paragraph 394 states in pertinent part that “[w]e require that spectrum access through a license or leasing arrangement be in effect prior to auction for an applicant to be eligible for an award of support.”

Because paragraph 399 indicates that penalties may apply to Mobility Fund applicants that are found to have failed the “spectrum availability” requirement, Townes requests that the Commission clarify that unlicensed spectrum may be used by a Fund applicant that shows its wireless technology will support 3G or better service. In this regard, it is noted that the Remote

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<sup>4</sup> *Order* at ¶399.

Areas Fund specifically contemplates the use of unlicensed spectrum to reach very remote areas.<sup>5</sup> While this is a positive development, the Remote Areas Fund is only \$100 million, much of which will be consumed by the expensive satellite services contemplated for many very remote projects. Moreover, technologies such as *xMax*<sup>TM</sup> are designed to serve more than just “very remote” geography. Wireless carriers should be able to take advantage of this lower cost equipment alternative in all areas where advanced wireless broadband services are to be provided. Therefore, the Commission should clarify the regulations to explicitly allow the use of unlicensed spectrum by Mobility Fund applicants, so long as they demonstrate in their applications that the technology to be used will achieve the broadband data speeds required by the *Order*.

## V. Conclusion

Townes appreciates the Commission’s effort to fashion the Mobility Fund as a means of directing support to the remote areas that still lack advanced wireless services. The Commission should clarify that, in creating the specific requirements for the Fund, it did not intend to prevent rural carriers from taking advantage of a plentiful and inexpensive source of spectrum, especially in rural areas where wireless infrastructure is often light or non-existent. It is vital that the Commission clarify or correct this ambiguity in the *Order*.<sup>6</sup>

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<sup>5</sup> *Order* at ¶30. It should also be noted that paragraph 98 of the *Order* includes unlicensed wireless as a means of delivering fixed broadband:

We define terrestrial fixed broadband service as one that serves end users primarily at fixed endpoints using stationary equipment, such as the modem that connects an end user’s home router, computer or other Internet access device to the network. This term includes fixed wireless broadband services (including those offered over unlicensed spectrum).

There is no apparent justification as to why unlicensed is not also suitable for mobile broadband in the right settings.

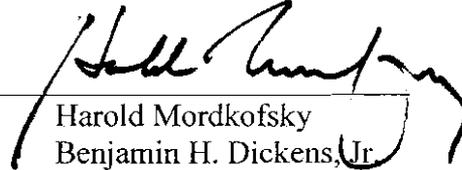
<sup>6</sup> Agencies may clarify their ambiguous orders, even if their actions in so doing are “hardly tidy.” *See Chesapeake & Ohio Ry. Co. v. United States*, 571 F.2d 1190, 1194, 187 U.S. App. D.C. 241 (D.C. Cir. 1977)

Based on the foregoing, it is respectfully requested that the Commission clarify the *Order* on reconsideration, consistent with the showings made herein.

Respectfully submitted,

**TOWNES TELECOMMUNICATIONS, INC.**

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