

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

In the Matter of )  
 )  
Inquiry Concerning the Deployment of ) GN Docket No. 12-228  
Advanced Telecommunications Capacity to )  
All Americans in a Reasonable and Timely )  
Fashion, and Possible Steps to Accelerate )  
Such Deployment Pursuant to Section 706 of )  
the Telecommunications Act of 1996, )  
as Amended by the Broadband Data )  
Improvement Act )

**REPLY COMMENTS OF CLEARWIRE CORPORATION**

Clearwire Corporation (“Clearwire”) hereby submits reply comments in response to the Commission’s Ninth Broadband Progress Notice of Inquiry.<sup>1</sup>

**I. INTRODUCTION**

Clearwire agrees with CTIA and others that mobile broadband deployment has accelerated over the last five years, but also encourages the FCC to do all it can to secure the future of carriers like Clearwire that offer answers to some of the thorniest questions facing the Commission. Clearwire itself is the beneficiary of the FCC’s forward-thinking spectrum policies when, beginning in 2004, the Commission revised the regulations governing 2.5 GHz spectrum to create an environment conducive to the establishment of a capacity-rich 4G mobile broadband

---

<sup>1</sup> *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 12-228, Ninth Broadband Progress Notice of Inquiry, FCC 12-91 (rel. Aug. 21, 2012) (“Ninth NOI”).

network.<sup>2</sup> Since that time, Clearwire has deployed its network at record-breaking speed, launching its first greenfield 4G network in Portland, Oregon in early 2009. By May of 2012, Clearwire, working closely with its Educational Broadband Service (“EBS”) and Broadband Radio Service (“BRS”) lessors, fulfilled substantial service requirements for over 2,000 licenses. This phase of 4G deployment has seen Clearwire grow to cover over 134 million POPs in approximately 80 markets.<sup>3</sup> As of June 30, 2012, these networks serve approximately 11 million total subscribers consisting of 1.3 million retail subscribers and 9.6 million wholesale subscribers with high-speed residential and mobile Internet and interconnected voice over Internet protocol (“VoIP”) services.

In addition to its own customers, Clearwire offers its advanced wireless broadband service on a non-exclusive wholesale basis. It provides the broadband platform serving Sprint’s 4G customers along with a group of disruptive upstarts including FreedomPop, NetZero, Karma, Mobile Beacon, Jolt Mobile, Leap Wireless, Cbeyond, MiTel and Locus Telecommunications. These newcomers are using Clearwire’s network to offer innovative pricing models, including free broadband to consumers.<sup>4</sup> Clearwire’s aggregate wholesale 4G usage increased 50% year over year in the second quarter of 2012. On the retail side of the business, Clearwire offers a

---

<sup>2</sup> See Amendment of Parts 1,21,73,74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands, Report and Order and Further Notice of Proposed Rulemaking, WT Docket No. 03-66 (rel. Jul. 29, 2004). Clearwire provides services using licensed spectrum in the 2.5 GHz band over both Broadband Radio Service (“BRS”) and Educational Broadband Service (“EBS”).

<sup>3</sup> Clearwire disagrees with CTIA’s characterization of Clearwire as a regional carrier. Clearwire’s markets are distributed across the country, covering two thirds of the population of the top 100 markets and provide the 4G WiMAX platform for Sprint’s customers. See Comments of CTIA – the wireless association at 9.

<sup>4</sup> See Anton Troianovski, *Start-Up Skirts Cellphone Data Plans*, available at [http://online.wsj.com/article/SB10000872396390443862604578028452045153628.html?mod=googlenews\\_wsj](http://online.wsj.com/article/SB10000872396390443862604578028452045153628.html?mod=googlenews_wsj) (Oct. 1, 2012); See also Myriam Joire, *NetZero launches ‘4G’ wireless service, we go hands on*, available at <http://www.engadget.com/2012/03/19/netzero-launches-4g-wireless-service-we-go-hands-on/> (Mar. 19, 2012); See also Karl Bode, *Karma Offers Wireless at \$14 a Gigabyte, Straight Latest MVNO Attempt to Disrupt Pricing*, available at <http://www.dsreports.com/shownews/Karma-Offers-Wireless-at-14-a-Gigabyte-Straight-119948> (Jun. 15, 2012); See also Tammy Parker, *WiMAX provider Mobile Beacon offers free Wi-Fi service*, available at <http://www.fiercebroadbandwireless.com/story/wimax-provider-mobile-beacon-offers-free-wi-fi-service/2012-09-23> (Sep. 23, 2012).

consumer-friendly “no contract” option and unlimited data plans under the brand name CLEAR®.

Clearwire also continues to position itself as a capacity-rich “off ramp” for other carriers facing spectrum constraints. Clearwire has announced a TDD-LTE 4G deployment that is designed to provide wholesale capacity beginning in 2013 in dense urban markets where it is needed most.<sup>5</sup> Clearwire initially is targeting high demand “hot zones” in 31 major urban centers such as New York City, San Francisco, Los Angeles, Chicago, and Seattle where demand for 4G mobile broadband is high and the need for deep capacity resources is most acute. Again, in announcing its TDD-LTE build, Clearwire broke from the pack and has committed to the construction of the country’s only TDD-LTE network.<sup>6</sup> Clearwire’s technology choice was driven by its conclusion that TDD-LTE provides the most efficient use of its spectrum and is better suited for customers’ asymmetric data patterns. In addition, Clearwire has helped promote the TDD-LTE global ecosystem that is coalescing around the 2.5-2.6 GHz band, laying the groundwork for international roaming using TDD-LTE.<sup>7</sup>

## II. DISCUSSION

### A. Actions the Commission Should Take To Promote Broadband Deployment

Clearwire urges the Commission to continue to foster the growth and development of innovative new carriers represented by Clearwire and its wholesale customers. In this regard,

---

<sup>5</sup> See Kevin Fitchard, *Clearwire breaking ground on new LTE network*, available at <http://gigaom.com/2012/09/20/clearwire-breaking-ground-on-new-lte-network/> (Sep. 20, 2012).

<sup>6</sup> Those domestic carriers such as Verizon and AT&T that have announced their LTE plans have chosen FDD (frequency-division duplexing) systems that use two paired bands of spectrum, one exclusively for uplink and the other exclusively for downlink. In comparison, TDD (time-division duplexing LTE) systems use a single block of spectrum for both uplink and downlink, permitting a carrier to adjust the use of its network to match customer demands.

<sup>7</sup> Clearwire is among the co-founders of the Global TD-LTE Initiative (“GTI”) whose members have begun launching extensive TD-LTE networks worldwide. For example, SoftBank Japan launched its TD-LTE network earlier this year and had more than 100,000 TD-LTE customers within three months. China Mobile has announced plans to build 20,000 TD-LTE base stations in 2012 and increase the network to 200,000 base stations in 2013. Bharti Airtel in India launched TD-LTE in April, 2012 and China Mobile has announced plans to launch a TD-LTE network in Hong Kong later this year.

Clearwire recommends that the Commission resist the calls for imposing additional burdens on mobile broadband carriers through USF contributions, special regulatory fees or other burdens that may have the unintended effect of slowing down broadband deployment. In addition, Clearwire commends the Commission for looking carefully at the key components needed for the timely and cost-efficient deployment of mobile broadband, such as wireless backhaul service, and urges it to continue to streamline and adapt regulations to promote advanced broadband services.

**1. The Commission Should Resist Imposing Additional Burdens on Broadband Providers**

Clearwire believes that there are several actions the Commission should take that will promote the continued acceleration of broadband deployment. Primary among these is that the Commission refrain from imposing new regulatory burdens that might have the unintended consequence of diverting scarce capital and resources from the deployment of broadband networks. Two proceedings currently before the Commission raise this threat. First, while Clearwire supports the Universal Service program and its goal of expanding the availability of affordable telecommunications services to all Americans, the Commission at this time should defer consideration of extending contribution obligations to broadband Internet access services.<sup>8</sup> While including broadband Internet access services would broaden the funding base, it also could have an adverse impact on emerging disruptive pricing models and on broadband adoption.

In addition, even under the Commission's recently revamped support structure, non-traditional providers such as Clearwire are currently unable to participate in programs largely limited to existing "Eligible Telecommunications Carriers" or ETCs. Clearwire agrees with

---

<sup>8</sup> *Universal Service Contribution Methodology, A National Broadband Plan for Our Future*, WC Docket No. 06-122, GN Docket No. 09-51, Further Notice of Proposed Rulemaking, FCC 12-46 (rel. April 30, 2012) ("USF FNPRM"); *See* Comments of Clearwire Corporation, USF FNPRM., filed Jul. 9, 2012.

WISPA that this imbalance should be addressed.<sup>9</sup> Imposing a contribution obligation on broadband providers that are not eligible for support would simply extend the mismatch between payments and support that has plagued the USF system since its inception. Moreover, the pending judicial challenges to the Commission's recent *USF/ICC Reform Order*<sup>10</sup> need to be resolved before the Commission has the legal and factual information it needs to assess whether broadband Internet access services should be included in the contribution base. Clearwire urges the Commission to defer a decision regarding broadband Internet access services at least until the judicial process has run its course.

Second, in comments filed today in MD Docket 12-201, Clearwire urges the Commission not to assess a new, separate regulatory fee on broadband service because doing so would be unfair, harmful, duplicative and unauthorized.<sup>11</sup> Clearwire already pays substantial annual regulatory fees on its owned BRS licenses, and, through its lease agreements, its leased BRS licenses, and also on its VoIP service. In addition, Clearwire pays regulatory fees for its over 10,000 microwave licenses that compose its advanced wireless backhaul network. Consequently, today the FCC collects regulatory fees associated with each of the key components of Clearwire's wireless broadband network. Were the Commission to add a new regulatory fee category for "broadband," Clearwire and companies like it that rely on FCC licensed spectrum to provide broadband service, would be unfairly double-billed, paying regulatory fees for both its licenses and its broadband service. To that end, Clearwire strongly agrees with the comments of AT&T and Verizon that broadband should not be established as a separate regulatory fee category.

---

<sup>9</sup> Comments of the Wireless Internet Service Providers Association, Ninth NOI, filed Sep. 20, 2012 at 6.

<sup>10</sup> See *In Re: FCC 11-161*, No. 11-9900 (10th Cir.).

<sup>11</sup> See Reply Comments of Clearwire Corporation, *Procedures for Assessment and Collection of Regulatory Fees*, MD Docket No.12-201, filed Oct. 22, 2012.

## **2. The Commission Should Continue to Shape Its Existing Regulations To Accommodate Broadband**

Clearwire commends the Commission for several recent actions that have accelerated mobile broadband deployment. First, Clearwire applauds the Commission's efforts in the recent wireless backhaul Second Report and Order.<sup>12</sup> As noted by many commenters to this proceeding, access to affordable second-mile and middle-mile facilities is essential for the continuing deployment of broadband.<sup>13</sup> As a greenfield 4G wireless broadband provider, Clearwire was able to develop and deploy a wireless backhaul strategy specifically designed for the demands of 4G mobile broadband. A key component of that strategy is the use of cost-effective microwave backhaul that is simple to install and manage, yet delivers the capacity and reliability needed for the explosive demand of broadband customers. Clearwire has found wireless backhaul allows it to bypass the limited availability, high cost, and slow deployment issues of traditional backhaul, internally referred to as the "backhaul bottleneck" problem. The flexibility provided by the Commission's new rules will lower the cost of deployment and help to bring broadband to previously difficult to serve areas. Additionally, resolution of the questions posed in the Commission's Second Further Notice of Proposed Rulemaking and Second Notice of Inquiry ("Second Notice") in its backhaul proceeding promises to continue these advancements by further enhancing the utility of wireless backhaul.<sup>14</sup> Clearwire agrees

---

<sup>12</sup> See *Amendment of Part 101 of the Commission's Rules to Facilitate the Use of Microwave for Wireless Backhaul and Other Uses and to Provide Additional Flexibility to Broadcast Auxiliary Service and Operational Fixed Microwave Licensees, et al.*, WT Docket No. 10-153, *et al.*, Second Report and Order, Second Further Notice of Proposed Rulemaking, Second Notice of Inquiry, Order On Reconsideration, and Memorandum Opinion and Order, FCC 12-87 (rel. Aug. 3, 2012) ("Wireless Backhaul Second R&O").

<sup>13</sup> See Comments of MetroPCS, Wireless Backhaul Second R&O, filed Oct. 5 2012; See also Comments of PCIA – The Wireless Infrastructure Association, Wireless Backhaul Second R&O, filed Oct. 5, 2012.

<sup>14</sup> See Wireless Backhaul Second R&O.

with the Commission's determination that access to cost-efficient and effective backhaul solutions are critical to the deployment of 4G mobile broadband networks across America.<sup>15</sup>

Clearwire also commends the Commission for launching a rulemaking proceeding to consider the relaxation of out-of-band emission requirements for devices operating in the 2.5 GHz band to accommodate the use of wider channel bandwidths.<sup>16</sup> Clearwire recently filed a modified proposal in the proceeding that it hopes will permit the Commission to quickly resolve the rulemaking.<sup>17</sup> This proposal will allow for better performance of 2.5 GHz devices while resolving the concerns of adjacent service providers.

### III. CONCLUSION

In light of the foregoing, Clearwire urges the Commission to refrain from imposing additional burdens on broadband network providers and take the recommended actions that will assist in the deployment of mobile broadband services.

Respectfully submitted,

By: /s/ Cathleen A. Massey

Cathleen A. Massey  
Vice President, Regulatory Affairs  
& Public Policy  
Christiaan Segura  
Regulatory Counsel  
Clearwire Corporation  
1250 I Street, N.W.  
Suite 901  
Washington, D.C. 20005  
(202) 351-5033

October 22, 2012

---

<sup>15</sup> *Id.*

<sup>16</sup> *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, WT Docket No. 03-66, RM-11614 ("2.5 GHz OOBE NPRM").

<sup>17</sup> *See* Clearwire Corporation *Ex Parte*, 2.5 GHz OOBE NPRM, filed Oct. 19, 2012.