

August 3, 2018

Via Electronic Filing

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: NOTICE OF EX PARTE
WT Docket No. 10-208: *Universal Service Reform –*
Mobility Fund
WC Docket No. 10-90: *Connect America Fund*

Dear Ms. Dortch:

The undersigned represent a coalition of radio frequency engineering firms that serve mobile wireless carriers across the country (Coalition). This letter is being filed in response to Verizon's July 27, 2018 filing,¹ which responded to the Coalition's July 5, 2018 letter.²

PROPAGATION MODELS

In response to Coalition concerns regarding use of varying propagation models, Verizon reports that it used over 2,500 separate models, each of which was optimized for a relatively small geographic area with similar terrain. Unfortunately, Verizon's explanation does little to shed light on why its submitted clutter information doesn't reflect a variety of values collected from different geographical regions (i.e., variable clutter loss min/max is a narrow range and constant clutter loss min/max is the same across the country). This indicates to us that the propagation model(s) used were uniform across a large geographic area, possibly the entire U.S.

Verizon may have initially used over 2,500 separate propagation models – but how was the resulting data catalogued and submitted? Was the data combined into one large shapefile and somehow averaged or incorrectly modified?

CLUTTER FACTORS

Verizon admits that it used "a clutter factor of zero" in violation of Commission's instructions.³ Verizon then states that it did so "only for a handful of terrain types that do

¹ [Letter](#) from Alan Buzacott, Executive Director, Federal Regulatory Affairs, Verizon, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-208 *et al.* (July 27, 2018) ("*Verizon Letter*").

² [Letter](#) from Mark Seagren, CTO/Senior RF Engineer, 4G Unwired, Inc., Lynn R. Merrill, P.E., President and CEO, Monte R. Lee and Company, Howard Gorter, P.E., Executive Vice President, Engineering Operations, Palmetto Engineering & Consulting, and Jeff Little, President – Central Division, CT&T, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-208 *et al.* (July 5, 2018) (*July 5 Letter*).

not cause excess path loss, such as roadways and grassland.” The Coalition reiterates that Verizon filed data in violation of Commission instructions, and underscores the importance of this issue. As the Coalition noted in its *July 5 Letter*, using zeroes for all four clutter inputs when representing *any* type of rural environment would create a much larger coverage area – especially areas such as freeways, highways, surface streets and grasslands.

PREDICTED VERIZON COVERAGE MAP

Verizon expresses concern that Monte R. Lee’s (MRL) predicted Verizon coverage map “underestimates Verizon’s Mobility Fund coverage because it fails to take into account all of the Verizon cell sites that provide coverage to customers in the Oklahoma Panhandle.” As Verizon notes, and MRL and the rest of the Coalition is aware, Verizon has cell sites in adjacent areas of neighboring states. The map showing Panhandle Telecommunication Systems, Inc. (“PTSI”) drive test activity clearly shows drive tests in areas adjacent to where these towers exist – Elkhart, KS and Liberal, KS among others.

We believe that the drive test results, conducted per MF-II Challenge Process specifications, speak for themselves. The data collection depicted on the map in our *July 5, 2018* letter (tests actually taken in June) covered a total of 402,573 test points. Of the total test points collected, 357,374 (88.8%) tested below 5 Mbps download speed or did not register 4G LTE service at all on Verizon-designated handsets. These figures include tests near Verizon towers adjacent to the Oklahoma Panhandle.

Further, Verizon expresses concern that the MRL predicted Verizon coverage map “does not comply with the Commission’s specifications for Mobility Fund maps, i.e., 80 percent cell edge probability and 30 percent cell loading factor.”⁴ Verizon’s concerns are unfounded. It is true that efforts to pinpoint Verizon’s coverage *began* three years ago, but they certainly didn’t *conclude* three years ago. While the tower location information remains unchanged (no new tower locations were added in the Oklahoma Panhandle during the intervening period), as the Coalition stated in its *July 5 Letter* MRL’s predicted Verizon Coverage Map was updated to reflect MF-II mapping standards.⁵ MRL’s uplink inclusion in the model would not contribute significantly to the lower coverage prediction. The change in coverage would still show significantly less coverage than what Verizon has

³ *Verizon Letter* at p. 2; see also Federal Communications Commission, [How Should I Format My Clutter Data?](#), at p. 1, modified Oct. 6, 2017 (stating that for each clutter category, the values of at least one of the clutter loss ranges, variable or constant, must be greater than zero).

⁴ *Verizon Letter* at p. 3.

⁵ *July 5 Letter* at p. 2 (stating that “using publicly available information, and with the aid of a newer modeling tool and the FCC-adopted 5 Mbps downlink standard, MRL determined that Verizon’s coverage area should be approximately 6806.49 square kilometers – nearly half of the LTE coverage area Verizon publicly claims to serve”).

publicly claimed to serve.⁶ The test results only confirm the validity of the models MRL used.

UNIVERSAL SERVICE SUPPORT

The amount of universal service support that PTSI is not a secret, nor is it relevant to the question of whether or not Verizon overstated its 4G LTE coverage ahead of the MF-II auction. Like many of our clients, PTSI has utilized universal service support to build and maintain a mobile wireless network to serve agricultural land and residents of (and visitors to) rural America. Verizon argues that because “Verizon's Mobility Fund coverage map shows that Verizon (an unsubsidized carrier) covers much of PTSI's territory, PTSI faces the prospect of losing universal service support in many areas.”⁷ We would argue instead that, because Verizon's Mobility Fund coverage map *incorrectly* shows that Verizon (an unsubsidized carrier) covers much of PTSI's territory, PTSI faces the prospect of spending nearly \$1 million to prove that this claimed qualifying coverage is nonexistent in order to ensure that unserved or subsidized areas throughout the Oklahoma Panhandle are eligible for MF II support.⁸

DRIVE TEST RESULTS

As an initial matter, the drive tests performed by PTSI and reported by the Coalition were performed in full compliance with Commission requirements.⁹ Verizon notes that the sub-5 Mbps speed test results reported in the *July 5 Letter* “are not consistent with Verizon's network performance metrics for the Oklahoma Panhandle.” However, Verizon *does not* refute these test results with drive test results of its own.

Further, Verizon attempts to attribute poor drive test results to network loading exceeding 30 percent. Specifically, Verizon states network loading at cell sites in the Oklahoma Panhandle often exceeds 30 percent, and that in “the third week of July...about 67 percent of average hourly network load measurements between 6 AM and midnight exceeded 30 percent.”¹⁰ As such, Verizon concludes, “it is not unexpected that a user would in some instances measure sub-5 Mbps speeds in areas of the Oklahoma Panhandle that are shown as covered under the mapping rules.”¹¹

⁶ [Verizon Wireless Interactive Map](#) (last visited June 28, 2018) (showing 4G LTE coverage throughout nearly all of the Oklahoma Panhandle).

⁷ *Verizon Letter* at p. 5.

⁸ [Letter](#) from Caressa D. Bennet, Counsel to Panhandle Telecommunication Systems, Inc., to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-208 *et al.*, at p. 5 and [Attachment](#) (July 13, 2018)

⁹ [Public Notice](#), Procedures for the Mobility Fund Phase II Challenge Process, WC Docket No. 10-90, WT Docket No. 10-208, DA 18-186, at ¶¶ 17-34 (Feb. 27, 2018).

¹⁰ *Verizon Letter* at p. 4.

¹¹ *Verizon Letter* at pp. 4-5.

The tests reported in the *July 5 Letter* were completed by June 22, 2018 – not in the third week of July. Also, Verizon fails to specify *how much over* 30 percent the loading factor was during that time period. Was it at 31 or 32 percent? Regardless, a loading factor of greater than 30 percent simply would not account for the sheer number of test points – 88 percent – that showed 4G LTE speeds below 5 Mbps – or no 4G LTE service at all.

CONCLUSION

Verizon repeatedly contends that the Coalition's observations are speculative – as if such speculation is avoidable in the absence of necessary information. Our observations are based on the testing that we have completed on behalf of our clients thus far – testing that has yielded abysmal results when compared to Verizon's publicly available 4G LTE coverage data, the results of which have been uploaded into the USAC portal. While additional link budget data could inform our observations, we do not have access to such information.

We urge the Commission to investigate the 4G LTE coverage claimed by Verizon and require re-filing of Verizon's data to correct its overstated coverage. This investigation could begin with a review of a sampling of data uploaded into the USAC portal – data from both the Oklahoma Panhandle and other locations. We continue to stand at the ready to meet with the Commission to further elaborate and provide supporting data for our analysis.

Pursuant to Section 1.1206 of the FCC's Rules,¹² this ex parte is being filed electronically with the Office of the Secretary.

Best regards,

/s/ Mark Seagren

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/s/ Howard Gorter, P.E.

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/s/ Jeff Little

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¹² 47 C.F.R. § 1.1206.