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April 14, 2016

VIA ELECTRONIC SUBMISSION

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

Re: WC Docket Nos. 10-90, 14-58, 07-135, 05-337, and 03-109; GN Docket No. 09-51; CC Docket Nos. 01-92 and 96-45; WT Docket No. 10-208

Dear Ms. Dortch:

ViaSat continues to support the Commission's efforts to ensure that rural, remote, and other areas deemed "unserved" have access to high-quality broadband services. ViaSat believes that the best way to achieve this outcome is through a technologically neutral distribution mechanism that allows *all* technologies to compete for limited Connect America Fund ("CAF") support on an equal playing field. ViaSat therefore has advocated a straightforward design for the upcoming CAF II reverse auctions that would award funds to the bidder that can offer qualifying service with the lowest required subsidy, thereby encouraging broad participation and facilitating efficient outcomes.[1] In contrast, ViaSat opposes proposals that would unduly complicate the CAF II reverse auctions by awarding "points" to certain bidders based on subjective criteria—particularly as those proposals tend to favor particular technologies over others in heavy-handed fashion.

The letter submitted last month by the Utilities Telecom Council ("UTC"), the National Rural Electric Cooperative Association ("NRECA"), and NTCA – The Rural Broadband Association ("NTCA," and, together with UTC and NRECA, the "Associations") in response to an earlier submission by Hughes Network Systems ("HNS") underscores the

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1 *See, e.g.*, Letter from ViaSat, Inc. to FCC, WC Docket No. 10-90 (May 14, 2015); Letter from ViaSat, Inc. to FCC, WC Docket No. 10-90 (Aug. 21, 2015) ("ViaSat August Letter").

particular problems inherent in such "points"-based approaches.[2] The Associations and HNS both advocate complex schemes that would create opportunities for gaming the funding process and marginalizing particular technologies—including, in the case of the Associations' proposal, marginalizing satellite broadband. These proposals, if implemented: (i) would delay the initial selection of funding recipients and give rise to numerous post-selection challenges—particularly given the inherently subjective nature of the necessary selection process; (ii) would bias reverse auctions in favor of certain technologies and against others, without regard to quality or cost-efficiency; (iii) would unnecessarily inflate funding requirements, leading to increased contribution burdens for consumers and/or a "funding gap" that would leave many households that the Commission has deemed "unserved" without access to CAF-supported broadband service; and (iv) in the best case, would delay the availability of supported services to those households.

In critiquing the HNS proposal, the Associations acknowledge the dangers inherent in the HNS "points"-based approach—although they then proceed to replicate the same problems in their own proposal. More specifically, the Associations criticize the HNS proposal as an effort to award undue preferences to satellite broadband technologies.[3] But the Associations' proposal, which explicitly favors fiber-based technologies, itself would undermine true competition and instead use auction design to dictate auction results. This is particularly egregious in that: (i) wireline technologies, and fiber in particular, already enjoy significant advantages within the CAF program, with price-cap ILECs being given rights-of-first-refusal and rate-of-return ILECs more recently being given prioritized access to model-based support; (ii) wireline providers have consistently argued that fiber-based technologies provide a cost-effective means of advancing CAF program goals (begging the question of why it is necessary for the Associations to place their collective thumb on the scale by handicapping other technologies);[4] and (iii) in many cases, fiber-based solutions actually would be among the least cost-effective means of extending broadband service to the households the Commission deems "unserved"—as reflected in the record in this proceeding.[5]

While ViaSat does not endorse the HNS proposal, ViaSat does take issue with the Associations' suggestion that satellite broadband technologies are incapable of supporting high-quality broadband service offerings. ViaSat similarly objects to the Associations' suggestion that CAF technical standards that accommodate such offerings necessarily would undermine

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2 *See* Letter from UTC, NRECA, and NTCA to FCC, WC Docket No. 10-90 (Mar. 14, 2016) ("Associations Letter"); Letter from HNS to FCC, WC Docket No. 10-90 (Dec. 29, 2015).

3 Associations Letter at 2-3.

4 *See, e.g.*, Letter from UTC to FCC, WC Docket No. 10-90 (Dec. 16, 2015) (claiming that electric utilities already "are providing fiber optic broadband services on a cost-effective basis in rural areas").

5 *See, e.g.*, Letter from the Fiber to the Home Council to FCC, WC Docket No. 10-90 (Jan. 21, 2016) (acknowledging that the economics of building FTTH networks in rural areas can be "challenging").

CAF program objectives—particularly where (as in the case of latency) the existing standard does not ensure a quality end-user experience. The Associations' misguided attacks on satellite broadband quality are belied by record evidence (which the Associations do not even attempt to dispute) demonstrating that: (i) consumers are highly satisfied with ViaSat's satellite broadband service, preferring it to leading terrestrial options;[6] and (ii) the Commission could adopt objective technical standards that would accommodate satellite service while ensuring a high-quality end-user experience.[7]

ViaSat also takes this opportunity to share new information about the recently announced capabilities of its next-generation satellites, which underscore why satellite broadband technologies are ideally suited to help the Commission achieve its CAF objectives. ViaSat's latest spacecraft design, for ViaSat-2, has over seven times the throughput of its first-generation broadband satellite design, and future generations will accelerate this trend. The satellites and network architecture that ViaSat is deploying in the next year are state-of-the-art and will support peak speeds of 100-plus Mbps. ViaSat recently announced its ViaSat-3 platform, which will begin deployment in 2019, and will consist of spacecraft that each will provide over 1 terabit per second (1,000 Gbps) of throughput and even higher service speeds, and each of which also will have more capacity than all communications satellites in existence today, combined. This will allow bursts in the gigabits per second range, more bandwidth that can be moved around, and more than keep pace with the improvements implemented over time by ViaSat's competitors. At the same time, the lower cost-per-bit is fundamentally changing network efficiencies together with other technological advances that are being passed on to consumers in the form of lower costs and higher throughput.[8]

Thus, there simply is no basis for the Associations' claim that "[f]iber and fiber-coaxial cable technologies are the most capable, by far, in terms of meeting the 100+ Mbps targets for high speed Internet access service to schools and libraries under the Commission's E-Rate program."[9] Satellite networks being built and deployed can achieve this speed objective more efficiently and expeditiously. Similarly, there is no basis for the Associations' claim that fiber technologies are "far more capable of supporting mobile broadband in rural areas."[10]

The Associations completely ignore the impressive capabilities of, and important role to be played by, future satellite broadband deployments. At the same time, the Associations

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6 ViaSat August Letter at 2.

7 *See id*. at 3-5.

8 *See ViaSat Announces Third Quarter Fiscal Year 2016 Results* (Feb. 9, 2016), *available at* http://investors.viasat.com/releasedetail.cfm?ReleaseID=954130 (noting that ViaSat-2 will improve ViaSat's services and that ViaSat-3 will offer "total network capacity and data delivery costs that are expected to be approximately four times better than ViaSat-2").

9 Associations Letter at 6.

10 *Id.*

endorse a self-serving double-standard with respect to network improvements that appears designed to dismiss satellite and other technologies while favoring fiber technologies. Specifically, the Associations' proposal would award bidders extra points if they can "scale" to higher speeds over time.[11] Although this factor is underspecified, the Associations suggest that fiber-based technologies would be able to "scale" easily, while satellite broadband networks would not because adding new satellites would require incurring significant costs and require long lead times.[12] But the types of investments required to expand satellite broadband capacity and capabilities are conceptually no different than those needed to "scale" terrestrial networks. In both cases, "scalability" is achieved through additional investment and network capabilities. As discussed above, this is already occurring, with ViaSat's plans to deploy spacecraft that will provide 1 terabit per second of network throughput and offer gigabit per second user burst speeds. Perhaps more importantly for the Commission as it structures the CAF, in many cases, the total costs of achieving such "scalability"—in terms of both time *and* money—would be significantly higher with terrestrial technologies than they would be with satellite technologies.

Nor does the Associations' other argument for dismissing the capabilities of satellite broadband technologies bear scrutiny. The Associations claim that "satellite capacity is shared between subscribers, which will result in substantially reduced throughput to each subscriber."[13] But if such sharing were disqualifying, no current technology would qualify for the CAF, because *all* networks, regardless of technology (*e.g.*, wireline, terrestrial wireless, cable, satellite) have points where bandwidth is aggregated and shared among multiple end users. The resulting "choke points" can result in significantly slower service for end users, particularly during peak busy periods—regardless of the technology at issue. The relevant question is not whether a given network "shares" capacity, but whether the network operator adequately manages congestion. Notably, fiber-to-the-node networks often encounter congestion issues on the link between the node and the home, which can significantly limit the speed and other benefits theoretically available with fiber technologies. In contrast, ViaSat has designed its networks to deliver traffic directly from the end user to the satellite and from the satellite to an earth station that efficiently connects to the rest of the Internet (and *vice versa*), bypassing many of the congestion points that can arise in terrestrial networks. Moreover, the networks that ViaSat is deploying allocate adequate per-subscriber bandwidth and otherwise ensure that high-quality service is delivered to consumers. And ViaSat is achieving these objectives in a manner such that its cost and funding requirements per end user are competitive with terrestrial technologies—including fiber.

The Associations' attempt to weight the reverse auction scales in their favor is consistent with their failure to recognize the need to achieve CAF program goals efficiently and in a manner that closes the "broadband availability gap" as completely as possible. Indeed, the Associations criticize the HNS proposal for prioritizing cost and coverage factors[14]—even

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11 *Id.* at 5.

12 *Id.*

13 *Id.* at 6.

14 *Id.* at 4.

though Section 254 of the Act reflects the need to account for cost and efficiency considerations in shaping universal service policy.[15] More generally, the Associations' proposal ignores the need to control CAF program costs to: (i) ensure that remaining allocated resources can effectively achieve the objectives of the CAF and (ii) minimize the contribution burden placed on consumers. To the contrary, the Associations' proposal would dramatically inflate funding requirements, and exacerbate the size of any funding/coverage gap, by encouraging providers to propose expensive terrestrial networks and service packages without regard to whether those networks and packages *reasonably* reflect relevant urban standards—including whether the costs are consistent with overarching program objectives and constraints. For example, the Association's proposal would treat a provider offering 250 GB of data per month as the equivalent of a provider offering an "unlimited" data allowance but requiring 10 times the level of support[16]—even though usage statistics show that the vast majority of users come nowhere close to the 250 GB per month usage level.[17] Adopting the Associations' proposal therefore would exacerbate the budgetary pressures already facing the CAF and undermine the efficiency gains that reverse auctions are intended to achieve.

ViaSat continues to believe that a unified reverse auction structure would be the most effective. The Commission and CAF II covered households would benefit most from a competitive, technology neutral auction, consistent with the fundamental principles of universal service.

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15 *See* 47 U.S.C. § 254(b)(6) (establishing the objective of "reasonable comparability"—but not absolute equality—in the services and rates available in rural and urban areas).

16 *See* Associations Letter at 4 (awarding a bidder 25 points for offering "unlimited" data allowances instead of 250 GB/month) and at 5 (awarding a bidder 25 points if it bids less than 10 percent of available funds in a census block).

17 *See, e.g., Cisco Visual Networking Index Highlights, available at* http://www.cisco.com/c/en/us/solutions/service-provider/visual-networking-index-vni/vni-forecast.html (last visited Apr. 8, 2016) (forecasting that "[i]n the United States, the average Internet user will generate 93.3 gigabytes of Internet traffic per month in 2019, up 170% from 34.5 gigabytes per month in 2014, a CAGR of 22%.").

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Please contact the undersigned should you have any questions.

Respectfully submitted,

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