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## **By Electronic Filing**

July 25, 2019

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 Twelfth Street, S.W.  
Washington, D.C. 20554

Re: Alaska Communications Internet, LLC, Section 1.65 Letter,  
Call Sign E170205, File No. SES-MOD-20180626-01472

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Dear Ms. Dortch:

In response to questions raised by the Commission staff, Alaska Communications Internet, LLC (“Alaska Communications”) provides the following additional information regarding its request for waiver of the Commission’s C-band filing freeze in connection with the above-referenced application (the “Kuspuk Application”) for earth station licenses needed to provide nine schools and the District Office of the Kuspuk School District with broadband services supported by the Commission’s Schools and Libraries (“E-rate”) universal service support mechanism.<sup>1</sup>

### **1. Terrestrial Transport Services Available at the Proposed Earth Station Sites**

The remote communities that comprise the Kuspuk School District are spread along approximately 150 miles of the Kuskokwim River in the remote interior of southwestern Alaska, deep in the Alaska Bush. There is no fiber connectivity available anywhere in the area. Indeed, these communities lack access to most infrastructure resources commonly available elsewhere in the state. They are not connected to the state’s power grid, nor can they be reached by road, meaning that people, goods, and services must typically arrive by air or river barge. Communications services in these communities generally depends on satellite transport links to Anchorage, where they can interconnect with the state’s communications networks, undersea cables connecting Alaska to the lower 48 states, or limited terrestrial microwave links.

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<sup>1</sup> See Public Notice, GN Docket Nos. 17-183, 18-122, Temporary Freeze on Applications for New or Modified Fixed Satellite Service Earth Stations and Fixed Microwave Stations in the 3.7-4.2 GHz Band, 90-Day Window to File Applications for Earth Stations Currently Operating in the 3.7-4.2 GHz Band, DA 18-398, 33 FCC Rcd 3841 (International, Public Safety and Homeland Security, and Wireless Telecommunications Bureaus 2018); Public Notice, GN Docket Nos. 17-183, 18-122, International Bureau Announces 90-Day Extension of Filing Window, to October 17, 2018, to File Applications for Earth Stations Currently Operating in 3.7-4.2 GHz Band; Filing Options for Operators with Multiple Earth Station Antennas, DA 18-639, 33 FCC Rcd. 6115 (Int. Bur. 2018).

Each of the schools in the Kuspuk School District has an enrollment of fewer than 100 students<sup>2</sup> and, as shown below, each of these communities range in size from about 50 to about 500 people, making them too small to support deployment of middle mile fiber connectivity.<sup>3</sup>



	Aniak city, Alaska	Chuathbaluk city, Alaska	Crooked Creek CDP, Alaska	Upper Kalskag city, Alaska	Lower Kalskag city, Alaska	Sleetmute CDP, Alaska	Stony River CDP, Alaska
AREA CHARACTERISTICS							
Area Name-Legal/Statistical Area Description (LSAD) Term-Part Indicator	Aniak city	Chuathbaluk city	Crooked Creek CDP	Upper Kalskag city	Lower Kalskag city	Sleetmute CDP	Stony River CDP
Population Count (100%)	501	118	105	210	282	86	54
Housing Unit Count (100%)	214	41	47	74	82	49	26
Internal Point (Latitude)	+61.5780349	+61.5755394	+61.8241191	+61.5391395	+61.5158128	+61.6538615	+61.7930809
Internal Point (Longitude)	-159.5287538	-159.2470698	-158.0637069	-160.3487161	-160.3576352	-157.1030202	-156.5869665

Source: U.S. Census Bureau, 2010 Census.

That said, Upper and Lower Kalskag, Aniak, and Chuathbaluk are located in the vicinity of the route taken by the microwave portion of the TERRA-Southwest system, operated by GCI Communication Corp. (“GCI”). Although it represents the only source of terrestrial connectivity to national and global fiber networks, TERRA-Southwest does not represent a viable alternative for the Kuspuk School District. *First*, based on experience of Alaska Communications, the microwave portion of the TERRA-Southwest system is congested, oversubscribed, and unreliable. It covers over eighty Bush communities in western Alaska, and simply lacks the capacity to carry all of the broadband traffic generated by all of them, a condition made worse by adverse weather that prevails throughout the long Alaskan winter. In three instances, Alaska Communications has purchased capacity on TERRA-Southwest microwave system to serve as a backup redundant connection for its satellite-based service to rural health care providers. In all three cases, the connections are unstable, and do not deliver the full bandwidth called for in the company’s service contract with GCI. Currently, as a result of these service quality issues, Alaska Communications does not, and cannot in good faith, use TERRA-Southwest connectivity to support primary service to its customers.

Indeed, GCI itself acknowledges the issue in limited fashion, explaining in support of its own request for waiver of the C-band filing freeze that it needs a C-band satellite earth station

<sup>2</sup> See Kuspuk Application, Narrative at 17.

<sup>3</sup> See U.S. Census Bureau American Factfinder, available at: [https://factfinder.census.gov/faces/nav/jsf/pages/community\\_facts.xhtml](https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml)

license to overcome “circumstances when the existing GCI TERRA C-Band microwave radio system experiences degraded service.”<sup>4</sup>

*Second*, the cost of the necessary middle mile capacity on TERRA-Southwest far exceeds that of equivalent satellite bandwidth. Coupled with the service quality challenges described above, it is therefore unlikely that service provisioned in that way would be the “most cost effective” option for an E-rate customer using price as the primary selection factor, as required by the Commission’s rules.<sup>5</sup> The Kuspuk School District’s contract with Alaska Communications calls for 10 Mbps symmetrical satellite Internet access service with a 1:1 contention ratio (maximum information rate/committed information rate; essentially dedicated bandwidth) to each of the nine Kuspuk School District schools, and 10 Mbps downstream/2.5 Mbps upstream satellite Internet access service with a 10:1 contention ratio (MIR/CIR) for the District Office. Based on the rates published by GCI for capacity on TERRA-Southwest,<sup>6</sup> the cost of these services to the Kuspuk School District (and the E-rate support mechanism), if Alaska Communications were to provide the service in this way, would be ***between two and three times the cost of using the C-band satellite platform*** and would result, as discussed above, in inferior service, despite the increase in cost.<sup>7</sup>

## 2. The Distance from the Proposed Sites to the Nearest Fiber

The Bureau has asked, in cases where there is inadequate terrestrial connectivity at the proposed Kuspuk School District sites, how far it is to reach the nearest fiber optic transport facilities. In the case of each of the Kuspuk School District sites, the nearest fiber is also part of the TERRA-Southwest system and is located between the communities of Levelock and Port Alsworth, Alaska, far to the southeast of the Kuspuk School District sites. The Kuspuk School District sites are all between 130 and 220 miles from these communities. In each case, those measurements reflect the straight-line distance through undeveloped and impassible wilderness.

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<sup>4</sup> GCI Communication Corp., Call Sign E180787, File Nos. SES-LIC-20180608-01392, Supplement to Pending License & STA Applications (filed July 22, 2019), at 2.

<sup>5</sup> 47 C.F.R. § 54.511(a) (“[S]chools . . . shall carefully consider all bids submitted and must select the most cost-effective service offering. In determining which service offering is the most cost-effective, entities may consider relevant factors other than the pre-discount prices submitted by providers, but price should be the primary factor considered.”).

<sup>6</sup> GCI, “TERRA Product Descriptions and Pricing,” eff. May 17, 2019 (*available at*: <https://www.gci.com/-/media/files/gci/regulatory/20190517gcierrapostingeffective.pdf>).

<sup>7</sup> The Commission has previously taken note of the unusual case of the Alaska Bush, where terrestrial connectivity is more expensive than equivalent satellite bandwidth. See *Promoting Telehealth in Rural America*, WC Docket No. 17-310, Draft Report & Order, FCC-CIR1908-03 (rel. July 11, 2019), at ¶ 84 (“[I]n Alaska for funding year 2017, health care providers reported, on the FCC Form 466, rural rates ranging from \$30,000 to \$40,500 for a 10 Mbps satellite service per month. In comparison, rural rates for a terrestrial-based 10 Mbps MPLS service in Alaska, in many instances, were between \$60,000 and \$75,000 per month.” (*available at*: <https://docs.fcc.gov/public/attachments/DOC-358434A1.pdf>)). This Draft Order is slated for consideration at the Commission’s August 1, 2019 Open Agenda Meeting.

In reality, the telecommunications industry has not developed any technology or techniques that support the economic deployment of fiber over vast distances of roadless wilderness. GCI, for example, was unable to construct fiber to the communities served by the Kuspuk School District, even after receiving more than \$88 million in federal financial assistance from the Rural Utilities Service under the 2009 Broadband Initiatives Program (“BIP”).<sup>8</sup> Furthermore, even if Alaska Communications were to figure out how to undertake such construction, GCI employs distance-insensitive postalized rates for service on TERRA-Southwest, meaning that the untenably high price of terrestrial connectivity to Anchorage from the communities served by the fiber portion of TERRA-Southwest would be identical to that for TERRA-Southwest service directly from the Kuspuk School District communities themselves.

The next-nearest fiber, Quintillion’s undersea cable that lands at Nome, Alaska, is no more viable an option. The straight-line distance from Nome to the Kuspuk School District communities ranges from 260 miles (Upper Kalskag) to 330 miles (Stony River), again through undeveloped, roadless wilderness, and including approximately 100 miles of undersea fiber and the associated submarine cable landing stations needed to cross the Norton Sound.

### 3. Advantages of C-Band Service Over Other Satellite Bands

In its filings in the Commission’s *Expanding Flexible Use of the 3.7 GHz to 4.2 GHz Band* docket, Alaska Communications has detailed the superior performance of C-band at Alaska’s high northerly latitudes, particularly in the poor weather conditions and heavy precipitation that are all too common in the state.<sup>9</sup> As Alaska Communications explained in these filings:

- C-band satellite coverage is plentiful in Alaska, as a result of the large footprint offered by C-band satellite beams. Ku-band and Ka-band satellites often employ spot beams that are targeted to more economically important markets, such as large cities in the lower 48 states or transoceanic transport corridors. In higher frequency bands, a spot beam may be aimed toward Anchorage at best, with any additional coverage merely incidental to that target.<sup>10</sup>

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<sup>8</sup> See generally Environmental Assessment, TERRA Southwest Broadband Telecommunications Project (April 2011) (discussing logistical and environmental challenges of constructing telecommunications facilities in southwest Alaska and rejecting a 100% fiber alternative proposal); *id.* at page 1-4 (noting that RUS awarded the TERRA-SW Project approximately \$88 million in federal financial assistance, split roughly equally between a \$44 million grant and a \$44 million loan), available at: <https://www.gc.noaa.gov/documents/alaska-eis.pdf>.

<sup>9</sup> See Alaska Communications Internet, LLC, Section 1.65 Letter, File No. SES-MOD-20180626-01472 (filed July 9, 2019), at 1-2; *Expanding Flexible Use of the 3.7 GHz to 4.2 GHz Band*, GN Docket No. 18-122, *Ex Parte* Letter from Richard R. Cameron, Counsel to Alaska Communications (filed June 21, 2019), at 1; *Expanding Flexible Use of the 3.7 GHz to 4.2 GHz Band*, GN Docket No. 18-122, Comments of Alaska Communications Internet, LLC (filed Oct. 29, 2018), at 8-11 (“Alaska Communications C-Band Comments”).

<sup>10</sup> See Alaska Communications C-Band Comments at 8-9 (citing ViaSat, Inc., Call Sign E110015, SES-LIC-20110211-00150, “FCC International Bureau Presentation” (Apr. 11, 2018), at 9 (ViaSat-1 Ka-

- C-band frequencies support superior performance at the low elevation angles required as a result of Alaska’s high northerly latitude, where earth station antennae often must be pointed lower than 10 degrees above the horizon.<sup>11</sup>
- C-band frequencies suffer far less attenuation from poor weather conditions (“rain fade”) and other obstructions than services that rely on Ku-, Ka-, or other higher bands. The low elevation angles required in Alaska make satellite service more sensitive to these attenuation issues, even from distant precipitation occurring along the line of sight to the satellite, than locations where the satellite is higher overhead.<sup>12</sup>

Given the state’s extreme northerly latitudes and harsh weather, the C-band thus offers better performance, availability, and coverage than other satellite spectrum bands, making it far superior to other spectrum for serving customers in Alaska. Over much of the year, dangerous and unpredictable conditions make it difficult at best for Alaska Communications network technicians to reach remote customer sites, making such service reliability a paramount concern.

Reliable communications are particularly important in the case of schools, libraries, and rural healthcare providers, which use services supported by the Commission’s schools and libraries (“E-rate”) and rural health care (“RHC”) universal service support mechanisms for the benefit of rural and remote Alaskan communities. Alaska Communications uses C-band satellite earth stations to provide E-rate and RHC-supported services, including those that would be delivered to the Kuspuk School District along the Kuskokwim River in southwest Alaska, using the earth stations proposed in this application.

More broadly, Alaska Communications’ customers, which include a broad array of rural health care providers, the Federal Aviation Administration, other federal and state government entities, public safety first responders, Alaska native-owned economic development enterprises, among others, are well aware that C-band services are consistently more stable and perform more reliably than Ku- or Ka-band alternatives. As a result, these customers routinely insist that their services be provisioned using C-band connectivity, and will specifically choose C-band services over other options. In fact, when its previous contract expired, the Kuspuk School District chose service offered by Alaska Communications over that of its former service provider, in part because Alaska Communications offered a C-band solution instead of Ku-band.

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band spot beam covering Anchorage), *available at*:  
[https://licensing.fcc.gov/myibfs/download.do?attachment\\_key=910492](https://licensing.fcc.gov/myibfs/download.do?attachment_key=910492).

<sup>11</sup> *Id.* at 9.

<sup>12</sup> *Id.* at 11.

For these reasons, in light of the special circumstances and importance to the public interest surrounding the delivery in Alaska of C-band satellite connectivity, Alaska Communications renews its request that the Bureau expeditiously grant its request for waiver and the Kuspuk Application.

Please direct any questions regarding this matter to me.

Very truly yours,

Richard R. Cameron  
*Counsel for Alaska Communications Internet, LLC*