

Approved by OMB
3060-0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
60-Day STA (OTZ Sites)

I. Applicant

Name: Alaska Communications Internet, LLC **Phone Number:** 907-297-3000
DBA Name: **Fax Number:** 907-297-3153
Street: 600 Telephone Avenue **E-Mail:** Lisa.Phillips@acsalaska.com
MS #60
City: Anchorage **State:** AK
Country: USA **Zipcode:** 90503
Attention: Ms. Lisa Phillips



File # SES - STA - 20190809 - 01040

Call Sign E170205 Grant Date 10/11/2019
(or other identifier)

Term Dates
From 10/11/2019 To: 12/10/2019

Approved: [Signature]

*Not-protected, non-interference basis,
without prejudice to underlying modification
SES-MOB-20190828-01106-FR*

2. Contact		Name: Richard Cameron	Phone Number: 2022304962
Company: LMI Advisors	Fax Number:		
Street: 2550 M Street NW Suite 343	E-Mail: rcameron@lmiadvisors.com		
City: Washington	State: DC		
Country: USA	Zipcode: 20037		
Attention:	Relationship: Other		
(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)			
3. Reference File Number or Submission ID			
4a. Is a fee submitted with this application?			
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114). <input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee <input type="radio"/> Other (please explain):			
4b. Fee Classification CGX – Fixed Satellite Transmit/Receive Earth Station			
5. Type Request			
<input checked="" type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input type="radio"/> Other			
6. Requested Use Prior Date			
08/13/2019			
7. City			
Various			
8. Latitude (dd mm ss.s h) 0 0 0.0			

9. State AK	10. Longitude (dd mm ss.s h) 0 0 0.0
11. Please supply any need attachments. Attachment 1: Narrative	Attachment 2: Draft 312 Schedule B Attachment 3: Technical Appendix
12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)	<div style="border: 1px solid black; padding: 5px;"> 60-Day STA for OTZ Sites. </div>
13. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application"; for these purposes.	Yes <input checked="" type="radio"/> No <input type="radio"/>
14. Name of Person Signing Rick Benken	15. Title of Person Signing VP
WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).	

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD-PERM, Paperwork Reduction Project (3060-0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to PRA@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

Remember — You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060-0678.

THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of

Application of Alaska Communications)	Call Sign: E170205
Internet LLC for 60-Day Special Temporary)	
Authorization (“STA”))	File No. SES-STA-_____

APPLICATION FOR SPECIAL TEMPORARY AUTHORIZATION

Pursuant to Section 25.120 of the rules of the Federal Communications Commission (the “FCC” or “Commission”),¹ Alaska Communications Internet LLC (“Alaska Communications Internet”) respectfully seeks 60-day special temporary authorization (“STA”), commencing on Tuesday, August 13, 2019, to operate nine remote earth station sites as part of its existing C-band very small aperture terminal (“VSAT”) network.² Alaska Communications Internet will operate these sites to provide critical middle mile backhaul support for OTZ Telephone Cooperative Inc. (“OTZ”), an incumbent local exchange carrier (“ILEC”) providing telephone, cellular and internet services in native villages throughout the Northwest Arctic Borough of Alaska.³ Consistent with the *ACI Network License*, Alaska Communications Internet seeks to operate these new sites in portions on the C-band at fixed locations in Alaska while communicating with the EUTELSAT 115WB satellite located at the 114.9° W.L. orbital position. Alaska Communications Internet plans to seek regular authority in the near future to operate the nine sites that are the subject of this STA request as part of its C-band VSAT network.

¹ 47 C.F.R. § 25.120.

² See Alaska Communications Internet LLC, File No. SES-LIC-20171116-01257, Call Sign E170205, and subsequent modification and amendment applications (“*ACI Network License*”).

³ OTZ is a member-owned cooperative serving remote Tribal villages in the Alaska bush. All OTZ Board members are Inupiat Eskimo and the majority of OTZ staff are Alaska native. <http://otz.net/>.

Grant of this STA will serve the public interest because it will enable Alaska Communications Internet to immediately provide OTZ with reliable C-band satellite backhaul transport connectivity to its central offices in the villages it serves, as well as the OTZ headquarters. OTZ is a Native Alaskan telecommunications carrier that plays a vital role in the communities that it serves, providing critical telecommunications connectivity in extremely remote areas of the Alaska bush to help bridge the digital divide in some of the nation's most isolated communities.⁴

This request is particularly time-sensitive because OTZ is actively migrating away from its existing middle mile legacy solution due to the impending end-of-life of the satellite space station currently supporting those services. Alaska Communications Internet is working with OTZ to support the transition and ensure no gap in its services to these local communities. The villages served by OTZ are not accessible by the Alaska road system (only by boat, airplane or snow machine), and depend on OTZ for essential connectivity. Thus, the uninterrupted delivery of services to these remote villages relies heavily on Alaska Communications Internet's ability to provide timely satellite backhaul, as proposed herein.

I. Background

Alaska Communications Internet is an affiliate of Alaska Communications Systems Group, Inc. ("Alaska Communications"), a publicly-traded company that, through its subsidiaries, provides terrestrial wireline telecommunications and broadband-enabled services throughout

⁴ Unlike Alaska's three largest population centers, and the surrounding rural communities, Alaska bush communities are isolated geographically from infrastructure resources commonly available elsewhere in the state, and the nation as a whole. Most bush communities cannot be accessed by road and are not connected to the state's power grid. To reach these communities, people, as well as goods and services, must arrive by plane, barge, snow machine, all-terrain vehicle, or other off-road transportation means. Communications services in these communities generally must rely on satellite or terrestrial point-to-point microwave transport links to Anchorage, Fairbanks, or Juneau.

Alaska as the largest incumbent local exchange carrier in the state.⁵ Alaska Communications Internet provides essential broadband and voice-over-Internet Protocol (“VoIP”) services to enterprise, business, educational, health care, and residential customers throughout the state.

The *ACI Network License* authorizes Alaska Communications Internet to operate a network of C-band satellite earth stations in order to provide satellite services to diverse users in remote locations in Alaska. Specifically, from the gateway hub in Anchorage, Alaska, the network currently serves the Alaska Native population of St. Paul Island and the Tanadgusix Corporation (“TDX”), an Alaska Native corporation created pursuant to the Alaska Native Claims Settlement Act (“ANCSA”). In addition, the C-band VSAT network provides broadband connectivity to each of the individual schools and the District Office of the Kuspuk School District with support from the Commission’s Schools and Libraries Universal Service Support Mechanism (“E-rate”),⁶ and local fishing and seafood processing businesses co-owned by the Bristol Bay Economic Development Corporation (“BBEDC”),⁷ as well as a test site located in Anchorage, Alaska.

Alaska Communications Internet has also obtained special temporary authority to serve a seafood processing plant operated by Silver Bay Seafood, LLC at False Pass, Alaska,⁸ as well as to serve coastal seafood processing plants operated by Trident Seafood Corporation and a remote

⁵ The incumbent local exchange carrier (“ILEC”) subsidiaries of Alaska Communications are: ACS of Anchorage, LLC; ACS of Fairbanks, LLC; ACS of Alaska, LLC; and ACS of the Northland, LLC; *see also* ACS Long Distance, Inc., File Nos. ITC-214-19960612-00248, ITC-T/C-20050822-00382, ITC-T/C-20040414-00190 (International Section 214 authorization).

⁶ *See* Alaska Communications Internet LLC, File No. SES-MOD-20180626-0142, Call Sign E170205 (granted Aug. 5, 2019) (“*ACI Modification Application*”).

⁷ The BBEDC is a not-for-profit company whose mission is to promote economic growth and opportunities for residents of BBEDC’s member communities through sustainable use of the Bering Sea resources. *See* <http://www.bbedc.com/>.

⁸ *See* Alaska Communications Internet LLC, File Nos. SES-STA-20190211-00110 and SES-STA-20190418-00526, Call Sign E170205 (“*Silver Bay STA*”).

mining operation.⁹ Alaska Communications Internet also has a pending request for temporary authority to provide critically-needed service supported by the Commission's Rural Health Care ("RHC") Universal Service Support Mechanism to the Arch Priest Nicholas Kompkoff Health Clinic (the "Chenega Clinic") operated by Chugachmiut, an Alaska Native 501(c)(3) non-profit agency incorporated in 1974 to serve the seven Native tribes in Alaska's Chugach region.¹⁰

Alaska Communications Internet incorporates by reference (and attaches as an Exhibit to this STA) a *pro forma* FCC Form 312 Schedule B and Technical Appendix showing the details of its proposed earth station operations at each site. Those documents provide relevant information relating to the earth station operating parameters, performance information and radiation hazard analyses. At all nine new remote sites, Alaska Communications Internet will operate a 2.4m General Dynamics (the "2.4m") earth station with a Prodelin antenna, which is on the Commission's Approved Non-Routine Earth Station Antennas List ("Non-Routine Antenna List").¹¹ Moreover, Alaska Communications Internet will operate the earth stations below the maximum EIRP spectral density ("ESD") levels authorized in the *ACI Network License* and consistent within levels previously approved by the Commission.¹²

⁹ See Alaska Communications Internet LLC, File No. SES-STA-20190418-00526, Call Sign E170205 ("*Trident STA*").

¹⁰ See Alaska Communications Internet LLC, File No. SES-STA-20190712-00914, Call Sign E170205 ("*Chenega STA*").

¹¹ Alaska Communications Internet will operate the General Dynamics Prodelin Antenna Model 1241, a previously approved and technically identical variant of the Model 1244. Alaska Communications Internet will operate these earth stations at maximum EIRP spectral density ("ESD") levels lower than those previously authorized by the Commission. See Approved Non-Routine Earth Station Antennas, <https://www.fcc.gov/approved-non-routine-earth-station-antennas>.

¹² Each site will utilize an iDirect modem, which assigns individual time slots for each earth station's transmissions, and thus there is no potential for aggregation of transmissions resulting in an exceedance of the off-axis ESD levels provided in this application.

II. Discussion

This STA requests seeks authority to operate nine (9) remote earth station sites in the Northwest Arctic Borough of Alaska to communicate with the network hub operated by Alaska Communications Internet under the *ACI Network License* via the EUTELSAT 115WB satellite in the C-band.

A. New Site Locations

Alaska Communications Internet seeks to operate the following eleven sites as part of its C-band VSAT network in Alaska (together, the "OTZ sites"):

- Kotzebue Headquarters
(geographic coordinates: 66° 51' 29.59" N, 162° 36' 50.44" W)
- Noatak Village Office
(geographic coordinates: 67° 34' 17.03" N, 162° 58' 14.52" W)
- Ambler Village Office
(geographic coordinates: 67° 05' 11.48" N, 157° 51' 40.65" W)
- Noorvik Village Office
(geographic coordinates: 66°49' 59.35" N, 161° 02' 44.78" W)
- Kiana Village Office
(geographic coordinates: 66° 58' 24.33" N, 160° 25' 49.27" W)
- Deering Village Office
(geographic coordinates: 66° 04' 32.74" N, 162° 43' 21.99" W)
- Buckland Village Office
(geographic coordinates: 65° 58' 41.98" N, 161° 07' 29.50" W)
- Selawik Village Office
(geographic coordinates: 66° 36' 24.35" N, 160° 00' 52.65" W)
- Kivalina Village Office
(geographic coordinates: 67° 43' 34.87" N, 164° 32' 15.84" W)

Each site will use the identical 2.4m VSAT earth station that is authorized in the *ACI Network License* for similar fixed C-band operations and is on the Commission's Non-Routine

Antenna List.¹³ Although the 2.4m earth station does not comply with the gain mask in Section 25.209 of the Commission's rules, Alaska Communications Internet demonstrates in the incorporated Schedule B that it will operate the terminals at maximum ESD levels below those currently authorized in the *ACI Network License* and in compliance with the ESD mask set forth in Section 25.218(d) of the Commission's rules.¹⁴

At each site, the earth station will be mounted on the roof of an existing telephone central office or on a previously-installed pole in an area inaccessible to the general public. Their planned locations are not among any "districts, sites, buildings, structures or objects, significant in American history, architecture, archeology, engineering or culture, that are listed, or are eligible for listing, in the National Register of Historic Places,"¹⁵ and thus they fall within the exemptions of Section 1.1306(a)-(b) and Note 1 to that rule.¹⁶ Accordingly, no environmental assessment is required as part of this application because each proposed site is categorically exempt under Section 1.1306 of the Commission's rules, 47 C.F.R. § 1.1306.

B. Frequency Coordination

Alaska Communications Internet engaged Micronet Communications, Inc. ("Micronet") to perform frequency coordination in support of this STA request, which was completed for all sites on July 31, 2019. Pursuant to Sections 25.115(c)(2)(ii) and 25.203 of the Commission's rules, 47 C.F.R. §§ 25.115(c)(2)(ii) and 25.203, Micronet has conducted a coordination analysis

¹³ *Supra* n. 13; *see, e.g.*, Harris Corporation, File No. SES-LIC-20060302-00342, Call Sign E060075.

¹⁴ *See* 47 C.F.R. § 25.218(d).

¹⁵ 47 C.F.R. § 1.1307(a)(4).

¹⁶ *See* 47 C.F.R. § 1.1306, Note 1 ("The provisions of §1.1307(a) requiring the preparation of EAs do not encompass the mounting of antenna(s) and associated equipment (such as wiring, cabling, cabinets, or backup-power), on or in an existing building, or on an antenna tower or other man-made structure, unless §1.1307(a)(4) is applicable.").

on behalf of Alaska Communications Internet that considers all existing, proposed, and prior coordinated microwave facilities within the contours of the proposed earth stations at the OTZ sites.

As demonstrated in the attached frequency coordination reports, as coordinated and limited,¹⁷ there is no potential for interference into other users of the C-band spectrum sought herein by Alaska Communications Internet. Moreover, Micronet received no objections in response to its Prior Coordination Notices, and Alaska Communications Internet currently operates its network with no reported cases of interference. Alaska Communications Internet will coordinate any additional hub or remote operations prior to bringing them into use as part of the C-band VSAT network.

C. The C-Band Temporary Freeze Public Notice

Alaska Communications Internet acknowledges the Commission's Public Notice placing a temporary freeze on the filing of all new or modification applications for earth stations in the 3.7-4.2 GHz band, effective as of April 19, 2018.¹⁸ The *Temporary Freeze Public Notice* does not include a freeze on requests for special temporary authority for short-term operations, and thus the instant request is outside the scope of the freeze. Furthermore, grant of this STA will strongly serve the public interest by enabling critically needed middle mile backhaul support to

¹⁷ To prevent interference to nearby terrestrial microwave operations, Alaska Communications Internet will limit its transmit operations to the 5925-6108.10 MHz and 6301.19-6360.14 MHz bands at the Kotzebue Headquarters location.

¹⁸ See Public Notice, *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 (rel. on April 19, 2018) ("*Temporary Freeze Public Notice*"). See also, 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 (rel. Jun. 21, 2018).

allow the provisioning of broadband and internet services to these tribal villages in the Alaska bush, where terrestrial connectivity is mostly unavailable.

In conjunction with its forthcoming request for regular authority to operate the OTZ sites as part of the network licensed under its existing *ACI Network License*, Alaska Communications Internet intends to seek a waiver, to the extent required, of the *Temporary Freeze Public Notice*. As discussed in the *Silver Bay STA* Legal Narrative, grant of that waiver request, when filed, would enable Alaska Communications Internet to further enable reliable and effective broadband services to additional remote locations, including the subject OTZ sites.¹⁹

III. STA Request & Public Interest Considerations

Section 25.120(a) provides that an STA request should be filed at least three business days prior to commence of proposed operations. Here, Alaska Communications Internet has timely filed this 60-day STA request so that the Commission may permit operations by Tuesday, August 13, 2019. Moreover, Section 25.120(b)(2) states that the Commission may grant a temporary authorization for up to 60 days if the STA request has not been placed on public notice and the applicant plans to file a request for regular authority for the service. This STA request will ensure Alaska Communications Internet has appropriate authority during the Commission's review of Alaska Communications' forthcoming application for long-term regular authority to serve these sites.

Grant of this 60-day STA will strongly serve the public interest by allowing Alaska Communications Internet to immediately begin supporting OTZ's transition from its legacy

¹⁹ See *Silver Bay STA*, Legal Narrative, Section II.C. To the extent that the Commission deems the *Temporary Freeze Public Notice* applicable here, Alaska Communications Internet hereby seeks a waiver of that freeze for the reasons set forth in Section II.C of the *Silver Bay STA*, Legal Narrative which it incorporates here by reference.

middle mile connectivity, which currently relies on a satellite space station that is at or beyond the end of its useful life, to Alaska Communications Internet's backhaul infrastructure. This, in turn, will ensure no lapse in critical broadband and other communications services to residents, local businesses, schools, libraries, health care providers, and others in these nine Alaska bush villages that rely on OTZ for their basic connectivity needs. This STA will also contribute to the regional well-being of the Northwest Arctic Borough of Alaska by bridging the digital divide and helping to improve access to resources, materials and opportunities made available by broadband connectivity.

A. Shortcomings of Terrestrial Alternatives

Alternative connectivity options in the area are extremely limited or nonexistent in the area. The only fiber connectivity is at the Quintillion's submarine cable landing station in Kotzebue, Alaska. Other than the Kotzebue Headquarters site itself, the sites are between 40 and 130 miles in a straight line from the Quintillion landing station. To reach that point, in addition to terrestrial fiber construction, all would require deployment of substantial lengths of undersea cable and the associated cable landing stations needed to cross open stretches of the Arctic Ocean, Kotzebue Sound, or Hotham Inlet, which together surround Kotzebue and nearly sever it from the mainland.²⁰

²⁰ For a detailed discussion of the challenges of constructing these facilities, see Brian "Butch" Webb and Zachary Casey, "Shore Approaches for Fiber Optic Cables in Arctic Construction," *Underground Construction* (Mar. 2017) (discussing the specialized horizontal directional drilling ("HDD") techniques required in the Arctic, because "the known risk from deep ice scour in shallow water would require burial depths that are unachievable with standard methods. Additionally, the large volume of material removed and the consequent stockpiling of the spoil presents an environmental problem in the Arctic that is not acceptable. The HDD technique eliminates this problem and can extend the shore approach further out to sea without the need for any sea bottom plowing or excavation of fragile arctic coastline."), available at: <https://ucononline.com/magazine/2017/march-2017-vol-72-no-3/features/shore-approaches-for-fiber-optics-cable-in-arctic-conditions>; Environmental

Construction of these fiber optic connections to the village central offices covered by this STA request would be technically and logistically infeasible and economically prohibitive. The villages served by these sites range in population from approximately 150 to 800 people, the vast majority of whom are Alaska natives, as shown below:²¹

	Katzebue city, Alaska	Salesnaik city, Alaska	Kivalina city, Alaska	Buckland city, Alaska	Noorvik city, Alaska	Heath CDP, Alaska	Amblor city, Alaska	Kiana city, Alaska	Deering city, Alaska
	Total	Total	Total	Total	Total	Total	Total	Total	Total
	Estimate <>	Estimate	Estimate <>	Estimate <>	Estimate <>	Estimate <>	Estimate <>	Estimate <>	Estimate <>
Total population	3,276	813	678	627	579	424	299	284	152
RACE AND HISPANIC OR LATINO ORIGIN									
One race	93.1%	78.2%	97.4%	99.8%	98.6%	98.2%	99.0%	95.4%	100.0%
White	21.4%	1.4%	5.6%	1.8%	4.8%	0.9%	3.3%	3.5%	1.3%
Black or African American	1.3%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%
American Indian and Alaska Native	67.5%	76.8%	91.7%	97.3%	93.8%	96.9%	95.3%	90.8%	92.1%
Asian	1.0%	0.0%	0.6%	0.2%	0.0%	0.0%	0.0%	1.1%	6.6%
Native Hawaiian and Other Pacific Islander	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%
Some other race	1.9%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Two or more races	6.7%	1.8%	0.6%	0.2%	1.4%	1.7%	1.0%	4.6%	0.0%
Hispanic or Latino origin (of any race)	4.9%	0.0%	0.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%
White alone, not Hispanic or Latino	20.4%	1.4%	5.2%	1.8%	4.8%	0.9%	3.3%	3.5%	1.3%

The telecommunications industry has not developed any technology or techniques that support the economic deployment of fiber over vast distances of roadless wilderness and open ocean to

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), available at: <https://www.gc.noaa.gov/documents/alaska-eis.pdf>.

²¹ See United States Census Bureau Data, available at: https://data.census.gov/cedsci/table?q=Population&hidePreview=true&table=S0601&tid=AC_SST5Y2017.S0601&lastDisplayedRow=46&g=1600000US0241830,0239300,0218510,0209600,0239960,0254700,0255140,0268230,0201970&vintage=2017&layer=place&cid=S0101_C01_001E&tm=true.

reach such small communities. Even after receiving more than \$88 million in federal financial assistance from the Rural Utilities Service under the 2009 Broadband Initiatives Program (“BIP”), GCI Communication Corp. (“GCI”), for example, was able only to construct a series of microwave links in western Alaska, and could not deploy a network entirely of fiber.²²

That said, six of these sites (Kotzebue, Noorvik, Kiana, Buckland, Selawik, and Noatak) are located in the vicinity of the route taken by the microwave portion of the TERRA system, operated by GCI. Although it represents the only source of terrestrial connectivity to national and global fiber networks, TERRA does not represent a viable alternative for OTZ. *First*, based on experience of Alaska Communications, the microwave portion of the TERRA 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 the TERRA 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 connectivity to support primary service to its customers.

Indeed, GCI itself has acknowledged 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

²² TERRA Environmental Assessment, *supra* n.24, 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).

license to overcome “circumstances when the existing GCI TERRA C-Band microwave radio system experiences degraded service.”²³

Second, the cost of the necessary middle mile capacity on TERRA far exceeds that of equivalent satellite bandwidth. Indeed, OTZ has previously noted that it is constrained in its ability to offer affordable broadband, explaining that, “[d]ue to high cost of middle mile transport, broadband speeds are not affordable to most of OTZ's customers.”²⁴ Indeed, based on the rates published by GCI for capacity on TERRA,²⁵ the cost of middle mile backhaul to OTZ, 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.²⁶

Although Kotzebue is the site of a landing station for the Quintillion undersea fiber, the community still requires access to C-band satellite middle mile transport. As the largest community in the area, Kotzebue is a regional hub. While primary connectivity will be provided using the Quintillion fiber, the C-band satellite connection will improve network reliability and

²³ GCI Communication Corp., Call Sign E180787, File Nos. SES-LIC-20180608-01392, Supplement to Pending License & STA Applications (filed July 22, 2019), at 2.

²⁴ *Ex parte* Letter from Christine O'Connor, Alaska Telephone Association, WC Docket No. 10-90, at 18 (“OTZ Performance Obligations”).

²⁵ GCI, “TERRA Product Descriptions and Pricing,” eff. May 17, 2019 (*available at*: <https://www.gci.com/-/media/files/gci/regulatory/20190517gcierrapostingeffective.pdf>).

²⁶ 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.

resilience by providing an important redundant backup connection to Anchorage. Should the undersea fiber suffer damage, breakage, or other failure, it could be many months before a cable ship could locate and repair the damage.²⁷ There are only a limited number of ships in the world that can lift and repair damaged submarine fiber optic cables, meaning any repair would involve a lengthy journey to the Arctic Ocean. And, the repair could likely be completed only in summer, when the weather is more favorable and the sea is not frozen. C-band satellite backup connectivity provides an important safeguard against the impact of such calamities.

B. Advantages of C-Band Satellite Platform

The advantages of C-band satellite service as compared to other satellite bands, are well-documented before the Commission. In its filings in the Commission's *Expanding Flexible Use of the 3.7 GHz to 4.2 GHz Band* docket, for example, 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.²⁸ 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,

²⁷ See Pat Forgey, "5.9 Earthquake Causes Telecom Outage in Southeast Alaska," *Anchorage Daily News* (Updated Sept. 28, 2016) (reporting submarine fiber optic cable cut caused by earthquake and potentially lengthy repair process), available at: <https://www.adn.com/alaska-news/article/59-earthquake-causes-telecom-outage-southeast-alaska/2014/07/26/>.

²⁸ 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").

a spot beam may be aimed toward Anchorage at best, with any additional coverage merely incidental to that target.²⁹

- 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.³⁰
- 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.³¹

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 E-rate and 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 some that may be served 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,

²⁹ 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-band spot beam covering Anchorage), *available at*: https://licensing.fcc.gov/myibfs/download.do?attachment_key=910492.

³⁰ *Id.* at 9.

³¹ *Id.* at 11.

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.

Grant of this STA request will allow Alaska Communications Internet to further expand its network, create an additional competitive alternative for customers in the Alaska bush, an undeserved area with little access to telecommunications connectivity. Disproportionately, bush villages in Alaska are home to vulnerable communities of Alaska Natives, for whom equal opportunities offered by broadband are particularly critical. Grant of this STA request will help improve the competitive landscape in the Alaska bush.

IV. Conclusion

Based on the foregoing, the public interest would be served by a grant of Commission authority to Alaska Communications Internet to operate nine additional remote sites as part of its C-band VSAT network in Alaska for a period of 60 days commencing on Tuesday, August 13, 2019.