



Comments of NANA Regional Corporation, Inc.

NANA Regional Corporation, Inc. (“NANA”), an Alaska Native Corporation,¹ is pleased to submit these Comments to the National Telecommunications and Information Administration (“NTIA”) in connection with NTIA’s Request for Comments (“RFC”) on its National Spectrum Strategy. NANA does so to focus NTIA’s attention on the Alaska Native population’s desperate need to secure reliable broadband services in the NANA region.

Specifically, NANA responds to NTIA’s question in the RFC, asking:

“Are there changes the government should make to its current spectrum management processes to better promote important national goals in the short, medium, and long term without jeopardizing current government missions?”²

NANA’s recent experience with NTIA suggests the answer to this question is, unequivocally:

“yes.”

NANA recently secured a \$68 million grant from the agency’s Tribal Broadband Connectivity Program (“TCBP”) to connect ten underserved or unserved villages in its region—one of the most remote, hard to serve areas of the United States—through 683 miles of fiberoptic cable. NANA is extremely grateful to NTIA for its vision and leadership in selecting NANA the recipient for this award. However, NTIA will not presently disburse the funding awarded to NANA to execute on this project, and has advised NANA that it expends funds at its own risk, because NANA’s contemplated fiber-based facilities appears to be “duplicative” of a far-lower capacity microwave-based system proposed by a carrier with support from the U.S. Department

¹ NANA was formed as a result of the Alaska Native Claims Settlement Act (“ANCSA”), which was passed by Congress in 1971. NANA is owned by the more than 15,000 Iñupiaq shareholders, or descendants, who live in or have roots in northwest Alaska. Iñupiat have close ties to the land and to each other.

² RFC Pillar #1, Question 5, Docket Number 230308-0068.

of Agriculture. But the Director of the State of Alaska Broadband Office—the best possible authority to determine facts and circumstances surrounding broadband connectivity needs in the State—sees no such duplication. NANA is attempting to resolve NTIA’s concern and collaborate on this issue in order to connect one of the country’s most vulnerable populations.

By these Comments, NANA asks NTIA to recognize the unique circumstances of rural Alaska and to take every measure available to the federal government to improve telecommunications services for Alaska Natives, whether those service are spectrum based or not. NANA is committed to supporting construction and operation of modern, high-quality broadband systems through the federal funding avenues available to it as rapidly as possible, and urges NTIA to support these efforts by (1) releasing the awarded broadband funds to NANA to allow its project to move forward; and (2) improving the interagency diligence process to support improved telecommunications services to rural Alaska.

Background

Rural Alaska faces the most challenging of telecommunications service conditions. Alaska’s extreme size (more than twice the area of Texas), the lowest population density in the nation, geographic challenges, almost no roads or transportation infrastructure, along with extreme weather, earthquakes and volcanoes, make conditions for telecommunications the most difficult in the country. The unique challenges of serving Alaska demand that NTIA promote unique solutions.

The NANA region is one of the most underserved areas in the United States, encompassing approximately 38,000 square miles in far northwestern Alaska, all largely above

the Arctic Circle. The region includes eleven villages,³ with a total of approximately 7,000 full-time residents, representing a population density of less than two persons per square mile (likely one of the lowest population densities in the United States). No roads connect NANA villages to each other, or to other parts of Alaska, much less to the “lower 48 states.” All necessities of life, apart from the fruits of subsistence efforts (primarily hunting and fishing), are barged (ocean conditions permitting) or flown in to the region (weather permitting), resulting in extremely high prices for basic goods, including food, fuel, and building materials.

This exceptionally remote and rugged region is without true broadband and what little Internet that exists is inadequate, typified by extremely poor connectivity, slow access, and prices that are unaffordable for most residents. Many Internet-based services taken for granted elsewhere in Alaska are woefully inadequate in the NANA region, including distance learning, telehealth, and remote work opportunities. As an example, rural residents in the lower 48 states may drive to locations with Internet service, stores or medical facilities; but that option does not exist for NANA region residents.

The COVID-19 pandemic brought this appalling digital divide into stark relief. While most areas of the United States were able to participate in the digital economy during the pandemic lockdowns with online shopping, learning, telehealth and work opportunities, these vital connections were beyond the reach of the Alaska Native population in the NANA region.

³ The 11 communities in the NANA region are: Ambler (Ivisaappaat), Buckland (Nunatchiaq), Deering (Ipnatchiaq), Kiana (Katyaak), Kivalina (Kivaliñiq), Kobuk (Laugviik), Kotzebue (Qiqiktaġruk), Noatak (Napaaqtuġmiut), Noorvik (Nuurvik), Selawik (Akuligaq), and Shungnak (Isiqnaq).



For these reasons, NANA is committed to making all feasible efforts to bring Internet services to its residents. As explained above, NANA successfully applied for, and received, a grant of approximately \$68 million from NTIA under the TCBP for its Broadband Infrastructure Deployment Project. The grant is critical to NANA’s plans to connect the region, and will allow NANA to complete the design, permitting, and installation of a broadband network of 683 miles of fiberoptic cable.

NTIA contends that the fiber-based facilities appear “duplicative” of a far-lower capacity microwave-based services proposed by OTZ Telephone Cooperative, Inc. (“OTZ”).⁴ However,

⁴ As made clear in these Comments filed before the Federal Communications Commission (“FCC” or “Commission”), NANA does not, in principle, oppose the OTZ microwave system. See *FCC File Nos.* 0010397762, 0010397765, 0010397769, 0010397770, 0010397771, 0010397775, 0010397778, 0010397785, 0010397787, 0010397791, 0010397795, 0010397801,

as shown in Attachment No. 1 to these Comments, the Director of the State of Alaska Broadband Office contends that the two systems are not duplicative.

Because the NANA region is one of the most underserved areas in the United States, NANA is confident that both systems proposed by NANA and OTZ should be granted and built to bring desperately needed Internet service to the region as soon as possible. The public interest in universal service, health, safety and equity demands that both systems be funded and built as soon as possible. NTIA should take every step possible to clear the way for distribution of the funds to NANA so that its residents would not be excluded from the fabric of society any longer.

The following discusses the current record before the FCC, as well as NANA's position to prioritize the needs of its rural residents with regard to true broadband access.

The OTZ Microwave System Cannot Be Built Without Substantial Application Amendments

On April 7, 2023, NANA took the opportunity to correct the record before the FCC, so that it may proceed expeditiously to review and approve a microwave system in the NANA region that actually may be built. In order for the FCC to process and grant a buildable microwave-based Internet system in response to the OTZ applications, the Commission must have a correct record of facts and circumstances on which to act.

OTZ proposes to construct a common carrier microwave system with 29 sites to provide Internet service. Of those proposed locations, at this time, two of them simply cannot be built because OTZ has proposed them on NANA land.⁵ Given land-use, environmental and other

0010397805, 0010397812, 0010397815, 0010397826, 0010397828, 0010397829, 0010397832, 0010397835, 0010397836, 0010397837, 0010397838, 0010397842, 0010397844, 0010397845, 0010397846, 0010397850, 0010397852

⁵ The two locations proposed by OTZ that are on NANA land are under File Nos. 0010397771 (OTZ 10- 6 miles Northwest of, Noorvik, AK Northwest Arctic County coordinates 66-54-16.3 N, 161-9-44.7 W) and 0010397787 (OTZ 17- 9 miles south of, Kiana, AK Northwest Arctic County coordinates 66-51-8.3 N, 160-19-46.2 W)

considerations, NANA is not in a position to grant such authority to OTZ. In addition, NANA believes that OTZ proposes three structures to be built on land controlled by the federal government,⁶ and nine structures on land controlled by the State of Alaska land,⁷ for which OTZ also may lack authority to construct. Attachment No. 2 to these Comments is a map, prepared by NANA, showing the locations of the proposed OTZ microwave sites, including the underlying land control.

NANA believes that a failure to build even one of the proposed sites would undermine the integrity of the whole system. Accordingly, and in order to speed the approval process for microwave facilities that actually are buildable, conserving FCC and private resources, NANA respectfully requested that the Commission direct OTZ to prove that it has reasonable assurance of site availability for all of its proposed transmission and reception sites.⁸

⁶ See, e.g. File Nos. 0010397769 (OTZ 2- 23 miles north of, Kotzebue, AK Northwest Arctic County coordinates 67-13-7.9 N, 162-44-10.7 W), 0010397775 (OTZ 33- 12 miles south of, Coldfoot, AK Yukon-Koyukuk County coordinates 67-4-55.4 N, 150-21-4.1 W), 0010397837 (OTZ 21- 23 miles south of, Ambler, AK Northwest Arctic County coordinates 66-45-12.4 N, 157-51-37.0 W)

⁷ See, e.g. File Nos. 0010397765 (OTZ 4- 16 miles north west of, Noatak, AK Northwest Arctic County coordinates 67-48-8.6 N, 163-7-59.4 W), 0010397778 (OTZ 25- 28 miles north east, kobuk, AK Northwest Arctic County coordinates 67-4-44.1 N, 155-55-57.0 W), 0010397791 (OTZ 32- 19 miles north of, Evensville, AK Yukon-Koyukuk County coordinates 67-9-48.6 N, 151-12-29.8 W), 0010397801 (OTZ 31- 17 miles east of, Evensville, AK Yukon-Koyukuk County coordinates 67-2-2.1 N, 152-4-20.7 W), 0010397815 (OTZ 28- 48 miles north west, Allkaket, AK Yukon-Koyukuk County coordinates 67-3-56.9 N, 153-52-1.0 W), 0010397828 (OTZ 29- 32 miles northwest, Allkaket, AK Yukon-Koyukuk County coordinates 66-59-24.3 N, 153-10-1.4 W), 0010397836 (OTZ 26- 43 miles east of, Kobuk, AK Northwest Arctic County coordinates 66-58-19.9 N, 155-17-56. 2 W), 0010397844 (OTZ 27- 53 miles west of, Kobuk, AK Northwest Arctic County coordinates 66-59-59.0 N, 154-55-24.7 W), 0010397850 (OTZ 30- 42 miles north of, Allkaket, AK Yukon-Koyukuk County coordinates 67-10-23.4 N, 152-37-0.2 W)

⁸ Generally, the FCC requires reasonable site assurance to be based on an affirmative expression by the entity in control of the site that the proposed site may be available for the use sought by the applicant. Surmise or conjecture are not sufficient. See, e.g., *Bell County Broadcasting Company, Appellant, v. Federal Communications Commission, Appellee, Progressive Communications, Inc., Intervenor Mary Mcfaddin Pyle D/b/a Mary Mc Broadcasting Company*,

In its two FCC petitions for waiver,⁹ OTZ contended that: “the use of fiber in the wilds of northwest Alaska is an impossibility due to weather conditions, mountain ranges, and permafrost.”¹⁰ OTZ is incorrect. NANA already has a plan to deploy fiber for its proposed Internet service, approved by the NTIA and the State of Alaska. Indeed, the State found that the NANA system is both buildable and far better suited to meet the needs of NANA area residents than the system proposed by OTZ. (*See* Attachment No. 1)

Similarly, OTZ incorrectly represented that, “Burying fiber in the Alaskan turf is not [] practical . . . if one were to bury fiber, it would be mangled by the shifting frozen turf. Microwave links are the only option[.]”¹¹ What OTZ does not explain is that microwave tower foundation borings also must sit in the same “shifting turf” (*i.e.* permafrost) for which OTZ takes issue. NANA engineering specifications substantially call for submarine fiber installation through existing waterways, not subterranean deployment. NANA is uniquely suited to carry out this work, as its government-contracting subsidiaries have decades of experience deploying and maintaining undersea fiberoptic, terrestrial, microwave relay, and satellite technology in Alaska and elsewhere. Moreover, at least two telecommunications carriers¹² already have deployed, and currently operate, terrestrial fiber optic systems in the region. In fact, fiberoptic cables generally are better shielded from the effects of harsh and variable weather than OTZ’s plan to subject

Appellant, v. Federal Communications Commission, Appellee, Progressive Communications, Inc., Intervenor, 950 F.2d 797 (D.C. Cir. 1991).

⁹ Amended Petition for Waiver of OTZ Telephone Cooperative, Inc. (“Petition for Waiver”) and Second Amended Petition for Waiver (“Second Petition for Waiver”), both submissions in the OTZ FCC microwave station applications.

¹⁰ Petition for Waiver, p. 3; Second Petition for Waiver, p. 3.

¹¹ Petition for Waiver, p. 4; Second Petition for Waiver, p. 4.

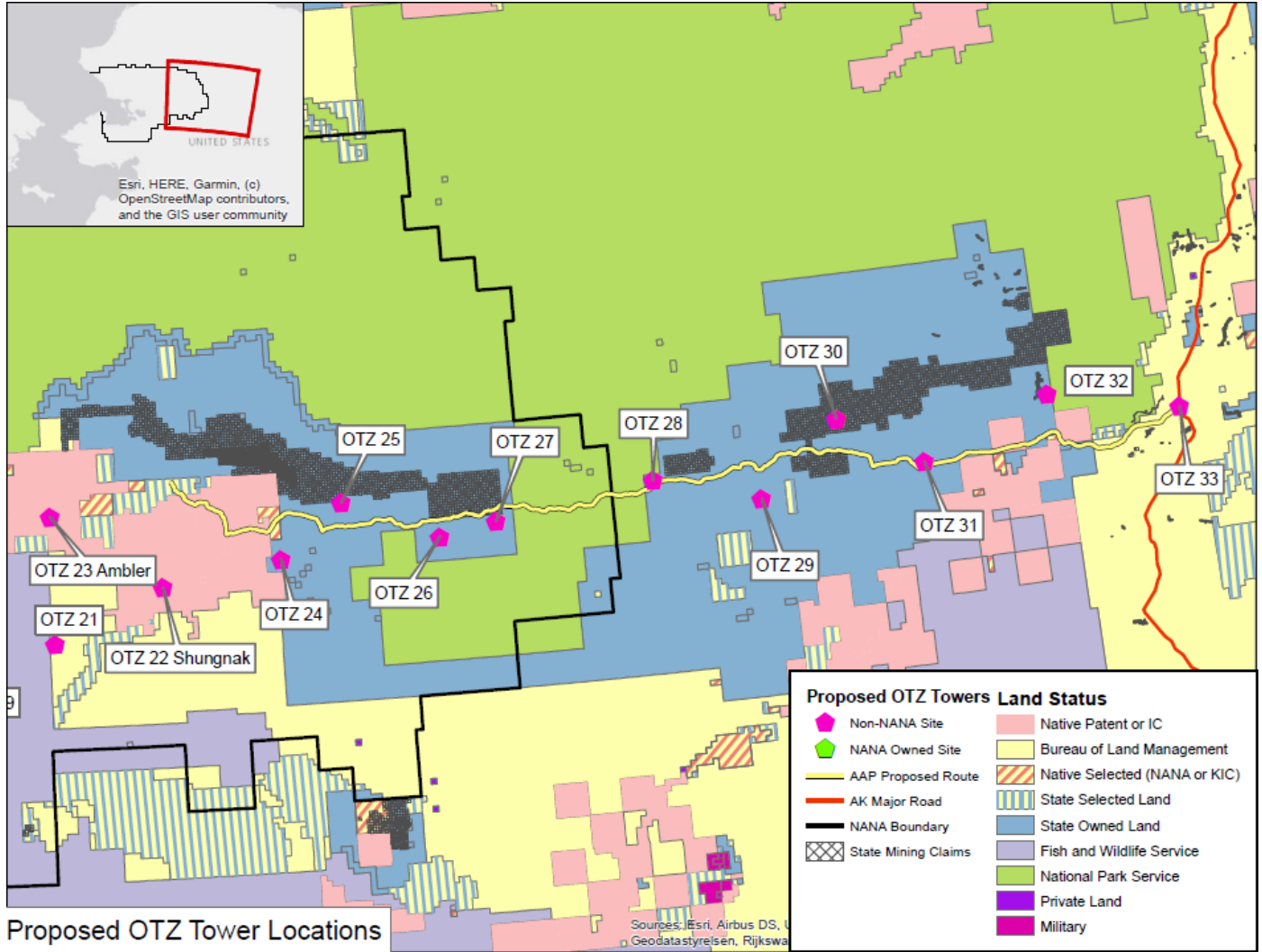
¹² *See* <https://www.quintillionglobal.com/arctic-fiber-optic-cable-network-quintillions-project-explained/> for Quintillion and <https://blog.gci.com/network-resilience-gcis-fortified-fiber-optic-backbone/> for GCI.

relay line-of-sight technology to the same harsh and inhospitable elements. Thus, OTZ's views about fiber are wrong.

Only NANA's Project is Guaranteed to Serve Underserved Households

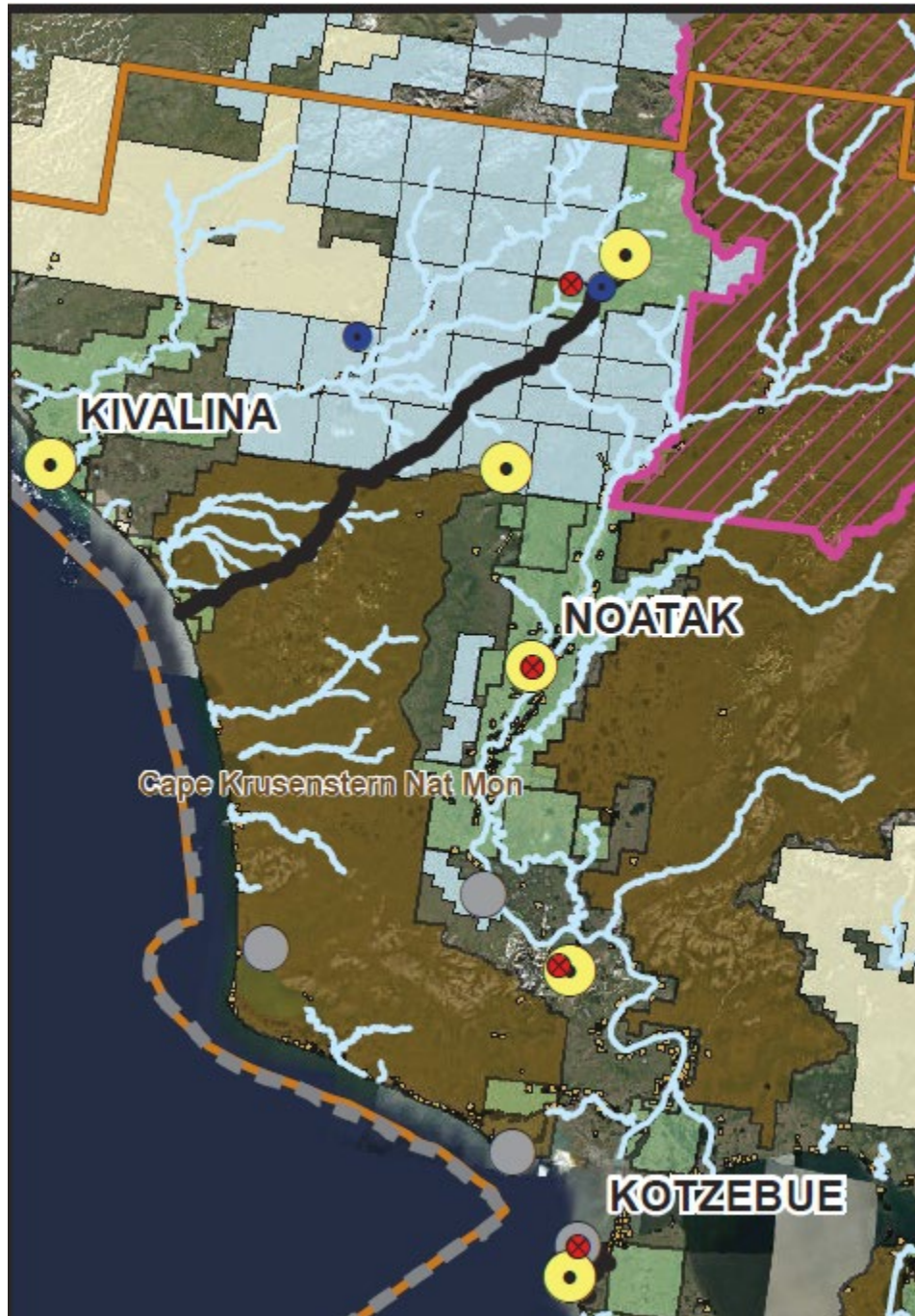
As shown in the following map, OTZ's tower network aims to connect to an existing fiber route on the Dalton Highway and build out from there. The Dalton Highway is more than 170 miles from the first OTZ tower that could reasonably be said to service a rural, residential area, Kobuk. In fact, OTZ must send its relay signal through at least 8 towers before it even arrives in the vicinity of a rural home. It appears the 8 lead towers aim to serve the proposed commercial route of the Ambler Access Project ("AAP"). AAP would be a 211-mile road with the sole purpose to provide private, industrial-access from the Dalton Highway to the Ambler Mining District. OTZ's network design indicates its intent to serve the private commercial interests of the project operator (including its facilities along the route), any mining companies using the road, and commercial goods delivery companies—all before providing any service to rural residents in the NANA region. However, any service along the proposed AAP route, if built, would necessarily draw bandwidth from the underserved residents of the NANA region.

See Map, Infra.



The same commercial ambitions are clear if one examines OTZ’s 4 proposed towers that stretch north from Kotzebue to reach the vicinity of Red Dog Mine. If OTZ was truly concerned with “provid[ing] the maximum level of broadband service to the greatest proportion of rural households,” per its USDA funding obligations found in 7 C.F.R. § 1738.105(a)(2) and elsewhere, OTZ could have erected towers to connect to Quintillion’s existing fiber line serving Point Hope or Kotzebue, a mile off-shore from the coast, with last mile infrastructure erected in

either of these villages. The bulk of the region's residents live in Kotzebue and its surrounding villages. See Map, *Infra*.



In sum, only NANA's project aims to provide the necessary bandwidth and last-mile infrastructure necessary to service these rural households.

Conclusion

NANA is making its best efforts to resolve NTIA's concern that the proposed systems of NANA and OTZ may be duplicative. For a region that profoundly lacks Internet service, the systems do not appear duplicative at all. And as shown in the attachment which follows, approximately three weeks ago, the State of Alaska, through its Director, Alaska Broadband Office, specifically determined that the NANA and OTZ proposed systems are not duplicative; both have value to the region. Therefore, NANA respectfully requests that NTIA take actions consistent with expanding universal service to the NANA region, including with broadband facilities. No United States citizens face more extreme conditions, with virtually no Internet service, than the Alaska Natives of the NANA region. NTIA should lead an overall federal government strategy to speed the deployment of vitally needed Internet facilities and services to one of the most isolated, rugged, remote and least served areas of the United States and not thwart such efforts. As part of this strategy, NTIA should continue its long-standing partnership with NANA to-date and immediately take steps to release the funds. Doing so will recognize that the unique circumstances and challenges of providing telecommunications in rural Alaska require carefully tailored solutions, which will be addressed by NANA in its Broadband Infrastructure Deployment Project.

Respectfully submitted,

NANA REGIONAL CORPORATION, INC.

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Attachment No. 1

Subject: Thoughts on the Non-duplicative Nature of the NTIA and USDA Awards in the Northwest Arctic Region

From: Lochner, Thomas F (CED)
Sent: Friday, March 24, 2023 11:02 AM
To: ageisler@ntia.gov; Kovach, Natalie - RD, State Office <Natalie.Kovach@usda.gov>
Subject: Thoughts on the Non-duplicative Nature of the NTIA and USDA Awards in the Northwest Arctic Region
Importance: High

Hi Natalie and Adam,

Thank you very much for indulging me my unsolicited analysis below; I very much appreciate all the very hard work you both and your agencies are doing. I have heard that there is some contention regarding possible duplication in the two awards in the Northwest Arctic region that may affect the Tribal Broadband Connectivity award to NANA. I wanted to reach out and make a case for why the OTZ microwave loan from the USDA and the NANA Regional Corporation, Inc. (NANA) fiber grant from the National Telecommunication and Information Administration (NTIA) are not duplicate funding for the same project.

Background as I understand it:

On, or about, March 17, 2022, OTZ Telephone Cooperative received a \$30 million, low-cost loan to bring high speed internet to communities in the Northwest Arctic Borough. The funding was received from the United States Department of Agriculture (USDA) Rural Utilities Service (RUS) through the Substantially Underserved Trust Area or "SUTA" Program; this program is available to telecommunication companies serving tribal lands. The project will provide a network of up to 33 new microwave antennae towers from the Northwest Arctic Borough to the Dalton Highway. Per the OTZ Telecom press release, OTZ has the intention to complete the full project in 2023. Benefits of this project will include providing internet access to OTZ's customers/members in each of the NWAB communities with broadband speeds (25mbs download/3mbs upload and unlimited data access packages).

Eight months later, on November 17, 2022, NANA was awarded a \$68.5 million broadband infrastructure deployment grant from the NTIA for the NANA Regional Broadband Network (NRBN) project. The four-year project will result in the installation of more than 680 miles of submarine fiber-optic cable from Kotzebue to the 10 villages in the NANA region, and 10-meter towers in each village to provide wireless internet services to tribal homes, **schools and clinics**. [emphasis added]

Why the two projects are not duplicative:

Through the Broadband Equity, Access and Deployment program (BEAD), NTIA has established a benchmark for Community Anchor Institutions (CAI)^[1] of 1Gbps/1Gbps. There are a minimum of 3 CAIs in each of the villages (school, clinic, seat of government) that puts the minimum bandwidth necessary to meet the 1Gbps/1Gbps at 30Gbps/30Gbps (see Table 1. below).

Table 1.

		Gbps/Gbps			
Row	NANA Community	School	Clinic	Tribal Government	Sumtotal

1	Ambler	1	1	1	3
2	Buckland	1	1	1	3
3	Dearing	1	1	1	3
4	Kiana	1	1	1	3
5	Kivalina	1	1	1	3
6	Kobuk	1	1	1	3
7	Noatak	1	1	1	3
8	Noorvik	1	1	1	3
9	Selawik	1	1	1	3
10	Shungnak	1	1	1	3
11	Sumtotal	10	10	10	30 Gbps Needed

Microwave Capacity (System total)	6 Gbps
Fiber Capacity (System Total)	3000 Gbps

Evaluating the infrastructure that is being contemplated by each project, the fiber project is the only infrastructure that can meet this need. The distances required for the microwave link from the Dalton Highway to the villages in the Northwest Arctic (see Map 1) will limit the capacity to well under 10Gbps/10Gbps (estimated at 6Gbps system total based on similar systems). Additionally, with each village passed the microwave system total will be reduced by the needs of that village. The microwave system, once it has provided service to the homes in the village, will simply not have the capacity to meet the latest established needs for the CAIs. Specifically, looking at the microwave path that is being contemplated, and assessing a 25/3 service, to an average village size of 80 homes and an 8:1 oversubscription (25 x 80 / 8), then the per village bandwidth need is 250Mbps. Total bandwidth for residential services across the system is 2.5Gbps. If the total system capacity is 6Gbps, then there is 3.5Gbps remaining in the system for CAIs. This would only accommodate Kobuk's (the first village in the system) CAIs. Additionally, OTZ has committed to the Alaska Broadband Office that it will offer a 100/20Mbps service. This exacerbates the issue and would limit the available bandwidth for village CAI's even further.

Map 1.

Proposed Microwave System



Conversely, with a 48 or 96 strand fiber installation and 1Gbps or 10Gbps electronics on each strand, the upper limit of the fiber could exceed 30Tbps/30Tbps. Even on the lower end (48 strands at 1Gbps each), the fiber is the only infrastructure installation that can meet the 1Gbps/1Gbps CAI requirement for the 10 NANA villages.

In conclusion, the microwave system that was awarded to OTZ has the capacity to serve the unserved and underserved members of the 10 communities, but only the NANA fiber award has the bandwidth to meet the need of the CAIs. Therefore, the projects may have slight overlap, but are not duplicative in that they each meet a critical need of the communities in the Northwest Arctic.

My very best regards,
Thomas

Thomas Lochner
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Department of Commerce, Community and Economic Development
State of Alaska
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^[1] ...school, library, health clinic, health center, hospital or other medical provider, public safety entity, institution of higher education, public housing organization, or community support organization that facilitates greater use of broadband service by vulnerable populations...

Attachment No. 2

