



September 10, 2024

The Honorable Alan Davidson
Assistant Secretary for Communications and Information
National Telecommunications and Information Administration
U.S. Department of Commerce
1401 Constitution Avenue NW
Washington, DC 20230

Subject: Proposed BEAD Alternative Broadband Technology Guidance

Sent via email to BEAD@NTIA.gov

Dear Assistant Secretary Davidson,

Kuiper Systems LLC (“Amazon”)¹ appreciates the opportunity to share its views on the National Telecommunications and Information Administration’s (“NTIA”) Proposed Broadband Equity, Access, and Deployment (“BEAD”) ² Alternative Technology Guidance (“Proposed Guidance”). While the Proposed Guidance recognizes the importance of using Low Earth Orbit (“LEO”) broadband to connect all Americans, it risks undermining Congress and the Administration’s goal by creating unnecessary and inefficient obstacles for states and territories (“Eligible Entities”)³ to take advantage of LEO broadband. By embracing tech neutrality in the final guidance, NTIA will enable Eligible Entities to receive more competitive and innovative bids for BEAD funding and give them flexibility to fund deployments with a mix of technologies tailored to their diverse needs and vast geographies.

Americans depend on access to affordable and reliable, broadband for work, education, healthcare, entertainment, digital commerce, and civic engagement. Yet, as NTIA recognized over two years ago when establishing the rules for participation in the BEAD program, “affordable, reliable, high-speed internet access has remained elusive to many for too long, because they live in a location where no service is available, the speed or quality of the service available is unreliable, or the offering available is unaffordable or inadequate.”⁴

This is precisely the problem that Amazon set out to address when it created Project Kuiper—an initiative to increase global broadband access through a constellation of more than 3,000 satellites in low Earth orbit. Its mission is to bring fast, affordable broadband to unserved and underserved communities both in the United States and around the world. With a large fleet of satellites operating closer to the Earth

¹ Kuiper Systems LLC is a wholly owned subsidiary of Amazon.com Services LLC.

² See Broadband Equity, Access, and Deployment (BEAD) Program: Alternative Broadband Technology Policy Notice, NTIA (August 26, 2024), <https://www.ntia.gov/sites/default/files/publications/bead-alternative-broadband-technology-policy-notice-for-public-comment-final.pdf> (“Proposed Guidance”).

³ This document uses the term “Eligible Entity” as that term is defined in the Notice of Funding Opportunity, which includes States, Territories, and the District of Columbia. BEAD Notice of Funding Opportunity at 22 (May 13, 2022), <https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf> (“BEAD NOFO”).

⁴ See *id.* at 7.

than traditional satellite systems, LEO broadband providers like Amazon can deliver service on par with high-speed terrestrial broadband networks anywhere within view of their satellites. Because satellite operators need not lay miles of fiber to connect customers in remote areas, a defining advantage of LEO broadband is that it costs little more to deliver service to remote corners of Montana than to a customer standing in Times Square.

LEO broadband, in short, offers a solution tailor-made to the problem identified by Congress. In establishing BEAD, Congress did not limit the technologies that Eligible Entities could use to deliver broadband internet. Instead, it established benchmarks of performance and reliability that any solution must meet to be eligible for funding.⁵ LEO broadband can use BEAD funding to deliver the highest-quality service and availability of that service to locations that are currently unserved. Yet, the initial BEAD rules prioritized fiber deployment, allowing Eligible Entities to rely on Alternative Technologies such as LEO broadband only where it would be wholly infeasible to deliver service with the traditional technologies such as fiber, cable, or DSL.⁶ The departure from the performance-based standards intended by Congress to a technology-based standard has largely prevented Eligible Entities from relying on LEO broadband or other Alternative Technologies in connecting the unserved and underserved within their jurisdictions.

NTIA should make several improvements to the Proposed Guidance, which collectively will ensure that it is technology neutral and aligns the incentives for Alternative Technology providers in BEAD with those of all other BEAD participants. Specifically, NTIA should (1) reframe the proposed program structure for Alternative Technologies, (2) modify the proposed reimbursement guidelines for Alternative Technologies, (3) adjust the proposed technical requirements for Alternative Technologies, and (4) provide final guidance as soon as possible. Amazon discusses these proposed changes more fully below.

The Proposed Guidance Should Not Impose Additional Programmatic Qualifications That Risk Delay to Connecting the Unconnected. The Proposed Guidance currently requires Eligible Entities to engage in several different case investigations to verify whether locations are already served by Alternative Technologies before opening up BEAD funding to Alternative Technologies.⁷ Specifically, Case 2 appears to require Eligible Entities to effectively run a second challenge process to give Alternative Technology providers the opportunity to demonstrate service. This risks further delaying broadband from reaching the unconnected. The Proposed Guidance also allows existing Alternative Technology providers to demonstrate that they meet the BEAD program performance requirements in a location and, if so, that location will be removed from BEAD funding eligibility.⁸ This proposal fails to ensure existing Alternative Technology providers will continue to provide service to these locations in compliance with the BEAD standards. This risks leaving consumers without choice, or worse, without reliable connectivity due to a lack of an enforceable commitment and/or audit mechanism to ensure these locations remain served. NTIA should require a commitment from any Alternative Technology provider qualified under Case 2 that the provider will continue to serve the location for the entirety of the BEAD federal interest period. Failure to accept this commitment should leave the location open to competitive bidding under BEAD by other Alternative Technology providers.

⁵ Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 429, (2021), § 60102(h)(4)(A) (“Infrastructure Act”).

⁶ See BEAD NOFO at 13.

⁷ Proposed Guidance at 6-9.

⁸ *Id.* at 8-9.

To avoid imposing new administrative obligations on Eligible Entities under Case 2, NTIA should rely on the existing maps already developed by Eligible Entities and approved by NTIA. The Notice of Funding Opportunity (“NOFO”) directed Eligible Entities to identify broadband serviceable locations through a host of processes, but most importantly through a transparent, evidence-based, and expeditious challenge process, resulting in a factual determination whether a particular location is unserved or underserved for the purpose of BEAD.⁹ These challenge processes are time and resource intensive, and have led to a transparent list of eligible broadband serviceable locations.¹⁰ As these processes conclude on a jurisdiction-by-jurisdiction basis, participating providers have a clear indication of the locations eligible for funding. This knowledge will enable providers to strategically determine where they are best suited to compete to deploy BEAD-funded networks. However, the Proposed Guidance does not afford Alternative Technologies the same clarity as other providers to make an educated analysis of how best to serve unconnected locations.

Subscription-Based Reimbursement Imposes Additional Barriers for Eligible Entities to Select LEO Technologies. Congress made clear that a broadband-serviceable location is “served” if a broadband service provider can initiate service at that location within ten business days of a request, with no charges or delays attributable to the extension of the provider’s network.¹¹ Indeed, NTIA’s Policy Notice on the *Uniform Guidance* and the NOFO indicate that fiber providers will be reimbursed for last-mile broadband deployments under BEAD based on this standard.¹² In other words, fiber providers are reimbursed for the costs of deploying fiber even if, for example, only 10% of the homes in a funded location decide to subscribe to the service because the goal of the BEAD program is to expand networks and make them subscription-ready.

In contrast, under the Proposed Guidance in the above scenario with only a 10% subscriber rate, a LEO broadband provider would only receive funding for 10% of the locations – even though its network provides coverage to 100% of the locations.¹³ This puts the LEO broadband provider at a significant disadvantage compared to providers using other technology.¹⁴ Broadband adoption is critical, but the focus of the BEAD program is to provide broadband *availability* to unserved locations across the United States. The Proposed Guidance risks depriving consumers’ access to broadband by limiting the ability of LEO broadband providers to further extend their network connectivity.

⁹ BEAD NOFO at 34-35.

¹⁰ For example, Virginia’s challenge process concluded in March 2024, but the Commonwealth is still working with NTIA to certify its map of eligible locations. See <https://www.dhcd.virginia.gov/bead>.

¹¹ A standard broadband installation is defined in the Broadband DATA Act as “[t]he initiation by a provider of fixed broadband internet access service [within 10 business days of a request] in an area in which the provider has not previously offered that service, with no charges or delays attributable to the extension of the network of the provider.” 47 U.S.C. § 641(14).

¹² See NTIA, Policy Notice: Tailoring the Application of the Uniform Guidance to the BEAD Program at 3 (2023), BEAD Policy Notice: Uniform Guidance Exceptions, Adjustments, Clarifications (“Uniform Guidance Policy Notice”); BEAD NOFO at 36-39.

¹³ The Proposed Guidance limits reimbursement based on subscription only to LEO broadband providers because LEO broadband providers are the only Alternative Technology provider that may recover for the cost associated with the LEO Capacity Subgrant. Proposed Guidance at 13-15.

¹⁴ Proposed Guidance at 14.

Under the Proposed Guidance, LEO broadband providers must reserve significant network capacity to meet demand for service.¹⁵ LEO broadband providers also must hold this capacity for the length of the federal interest period (10 years)¹⁶ in order to provide service to BEAD-supported locations upon request, even when there is no demand.¹⁷ This equates to deploying a critical network asset for free without any guarantee of return, which is not a viable business model.¹⁸ Not only is this requirement detrimental to LEO broadband providers, it ultimately hurts unconnected consumers because it will prevent LEO broadband providers from allocating that capacity to serve other potential customers, thereby limiting their choices to obtain broadband connectivity.

It is also unnecessary to base reimbursement on subscription rates in order to safeguard BEAD funding. Under existing rules, Eligible Entities are already required to confirm the reasonableness of the cost of capacity on a per broadband serviceable location basis, and they also have extensive audit rights.¹⁹ Therefore, NTIA should align requirements for all providers and reimburse LEO broadband providers for the very real costs they will incur when reserving capacity for a location, whether or not a subscription from a BEAD-supported location is present.²⁰ Such action would incentivize Alternative Technology participation in BEAD and expand broadband access.²¹

Alternative Technology Providers Can Operate Their Networks Efficiently for Consumers in Compliance with BEAD Requirements. Congress established performance and reliability benchmarks that any technology solution must meet to be eligible for BEAD funding.²² Among the principal requirements is the fact that broadband service must be provided with speeds of not less than 100 Mbps for downloads and 20 Mbps for uploads.²³ NTIA adopted strict compliance standards and testing protocols based on established processes to ensure that providers meet these minimum service standards so customers and

¹⁵ This is further compounded by the fact that the Proposed Guidance requires LEO broadband providers to reserve 5.0 Mbps of capacity or implement a threshold of 2 TB per month on a per location basis. Proposed Guidance at 11.

¹⁶ NTIA proposes LEO broadband providers to comply with a 10-year “Period of Performance” in lieu of a federal interest in an asset. Proposed Guidance at 13.

¹⁷ Such a requirement is arguably in conflict with generally accepted policies and rules requiring that licensed spectrum be put into use. See *FCC Construction Requirements by Service*, <https://www.fcc.gov/wireless/support/universal-licensing-system-uls-resources/construction-requirements-service>; see also *FCC Best Practices for National Spectrum Management*, <https://www.fcc.gov/general/best-practices-national-spectrum-management>.

¹⁸ The cost of holding fallow capacity is not only an operating expense, but a capital expense, given the significant infrastructure investment necessary to make the capacity available to that location. Additional CapEx is necessary to increase capacity for any given location. For example, additional LEO satellites or ground gateway terminals would increase capacity.

¹⁹ 2 C.F.R. Part 200, Subpart F, adopted by the Department of Commerce through 2 C.F.R. § 1327.101. NOFO at 93.

²⁰ Amazon supports both a federal and state 10-year period of performance requirement upon initiation of service, but seeks to align the administrative burdens associated with the requirement with the federal interest imposed on other BEAD providers. Proposed Guidance at 16. As proposed, each location will have a unique performance period, which will be administratively burdensome for an Eligible Entity and providers to track. NTIA should align project area performance periods to decrease the administrative burden and level the playing field for Alternative Technology providers.

²¹ 47 U.S.C. §1701 *et seq.*

²² Infrastructure Act, § 60102(h)(4)(A).

²³ BEAD NOFO at 64-65.

the government receive the service for which they are paying.²⁴ NTIA should avoid prescribing specific capacity metrics on LEO broadband providers when it is unnecessary to achieve compliance with BEAD requirements and instead rely on the testing protocols and processes used for all other BEAD-funded broadband providers to ensure that LEO broadband providers meet the minimum service standards.²⁵

Not only does the Proposed Guidance require LEO broadband providers to meet the minimum service standards, but they must also allocate a set amount of capacity or usage for each consumer *and* undergo more robust performance testing with higher sampling ratios.²⁶ This is significantly more burdensome than what other BEAD participants are subject to, and will ultimately serve as a barrier to connecting unserved consumers. The Proposed Guidance imposes a rigid, per location metric, requiring LEO broadband providers to allocate 5.0 Mbps of capacity or implement a usage threshold of 2 TB per month on a per location basis, in order to demonstrate “technical capacity.” These metrics are not analogous to those imposed on fiber and other terrestrial technologies. If they were, then a fiber provider seeking to meet the 5.0 Mbps standard would be required to deploy—but leave unlit—some percentage of its fiber network.²⁷ This would be contrary to the BEAD program’s goals of deploying service-ready network facilities to as many locations as possible. As described above, the availability of capacity is crucial for LEO broadband providers to extend access to new subscribers and continued innovation. By prescribing specific metrics (combined with compensating LEO broadband providers on subscription rates rather than network deployment), the Proposed Guidance is effectively increasing the cost of deploying broadband access for LEO broadband providers. By increasing costs, fewer locations can be served with a finite pool of funding, which will reduce consumer access to broadband and undermine the goals of BEAD.

To the extent that NTIA seeks to mandate a specific metric on a per location basis, NTIA should instead require all providers to ensure they provide a reasonable monthly usage threshold under which BEAD minimum service standards apply.²⁸ By adopting such a threshold, NTIA will ensure consumers are provided with sufficient high-quality broadband service to meaningfully engage in digital society.

The Final Guidance Must Be Issued Soon for Eligible Entities to Use Alternative Technologies. NTIA needs to provide clarity on Alternative Technology participation in BEAD as soon as possible. Other potential BEAD participants have had clarity for two years to make educated decisions on participation in BEAD and determine how to strategically compete to service eligible locations. Alternative Technology providers

²⁴ *Id.* At 64. See, e.g., *Connect America Fund*, WC Docket No. 10-90, Order, 33 FCC Rcd 6509 (WCB/WTB/OET 2018) (Performance Measures Order); *Connect America Fund, Order on Reconsideration*, WC Docket No. 10-90, 34 FCC Rcd 10109 (2019) (Performance Measures Reconsideration Order).

²⁵ *Id.* While providers of all technologies will dynamically operate their networks in vastly different ways, NTIA’s adopted testing protocols will objectively verify compliance with the BEAD requirements.

²⁶ NTIA concludes without support that “higher sampling ratios do not impose an undue burden on subgrantees.” Proposed Guidance at 12.

²⁷ Meeting either metric can demonstrate Technical Capacity as described in the Proposed Guidance. Proposed Guidance at 8. Each metric imposes a different burden on a LEO broadband network and NTIA should clarify the intent of the Technical Capacity showing instead of mandating metrics.

²⁸ Proposed Guidance at 8, 13. Furthermore, 2 TB is greater than average consumer usage on a monthly basis. Broadband now reports that as of last year, the average American household consumed approximately 500 GB per month. The usage requirement is four times that amount. *How much data do I need?*, Broadband Now, <https://broadbandnow.com/guides/how-much-data-do-i-need> (Nov. 9, 2023). Furthermore, major cable providers, like Comcast, limit subscribers to roughly 1.2 TB on a monthly basis before service is throttled. See *Comcast Data Allowance*, <https://www.xfinity.com/learn/internet-service/data> (last visited Sept. 8, 2024).

have yet to obtain that clarity — even as Eligible Entities have already opened their application windows,²⁹ and others have closed their prequalification windows,³⁰ thereby foreclosing the ability of Alternative Technology providers to evaluate participation in BEAD. Additionally, NTIA should clarify that Eligible Entities with an interest or need for Alternative Technology involvement adjust their competitive processes to more effectively facilitate Alternative Technology participation. Such action would ultimately benefit consumers and ensure no one is left unserved.

In conclusion, Amazon strongly supports NTIA clarifying and streamlining opportunities for Eligible Entities to choose Alternative Technology providers under the BEAD Program. In doing so, NTIA will best serve the needs of people across the United States to obtain affordable access to help close “[t]he persistent ‘digital divide’ in the United States” as Congress intended.³¹

Please contact the undersigned with any questions.

Respectfully submitted,

/s/ Christopher Cook

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²⁹ For example, Montana and West Virginia.

³⁰ For example, Delaware, Illinois, Kentucky, Louisiana, West Virginia, and Wyoming. Many other Eligible Entities are closing their pre-qualification windows by the end of September 2024, likely before NTIA finalizes guidance on Alternative Technologies.

³¹ Infrastructure Act, § 60101.