Corporate Headquarters
170 Ridgeview Center Drive, Duncan, SC 29334 USA
TEL: (800) 235-3423 TEL: (864) 433-0333
FAX: (864) 433-5560 WEB: www.AFLglobal.com

Comments of AFL Telecommunications, LLC in Response to U.S. Department of Commerce National Telecommunications and Information Administration Broadband Equity, Access, and Deployment (BEAD) Program: Alternative Broadband Technology Policy Notice (v 1.0)

We, AFL Telecommunications, LLC, are writing these comments to express our concerns about the recent Proposed BEAD Alternative Broadband Technology Guidance. Our concerns are twofold: first, looking at the present, we are concerned that Low Earth Orbit (LEO) technologies have not demonstrated a consistent ability to meet the minimum required broadband speeds; and second, that LEO provides insufficient longevity and upgradeability. This calls into question its ability to meet the 10-year (extendable to 20 year) period of performance - let alone provide upgradeability during that time or beyond. The NTIA needs to continue to emphasize the construction of optical networks to meet its goal of a generational infrastructure providing Broadband to all.

1. NTIA should reevaluate LEO satellite as a viable alternative broadband technology:

Broadband performance by LEO satellite technologies continues to fall well below the minimum acceptable performance criteria set forth in the BEAD program.

Ookla recently reported that Starlink performance in rural areas had a median download speed of 65.77 Mbps and a median upload speed of 9.94 Mbps.[1] This is consistent with the research carried out by consulting firm Cartesian in 2021 which found that Starlink would be unlikely to be to meet the Rural Digital Opportunity Fund (RDOF) performance requirements.

As such, the performance of LEO satellite technology does not address the fundamental goal of the Broadband Equity, Access, and Deployment Program to provide universal, reliable broadband.

2. NTIA must consider future performance concerns for LEO:

We believe the NTIA needs to more carefully consider two additional concerns with longevity LEO technology. First, there is a question of its ability to continue performing over the 10-year (extendable to 20) period of performance. Second, there is concern over its ability to handle future growth in broadband speeds and demand.

As clearly noted in the "Proposed BEAD Alternative Broadband Technology Guidance", the "period of performance for a LEO Capacity Subgrant will be ten years from the date upon which the subgrantee certifies to the Eligible Entity" which will be extended, at no-cost, for a similar duration by the NTIA.

Initially, a 20-year capacity grant would seem reasonable. However, broadband networks are a generational investment – in some respects a multigenerational one, much like electrification nearly 100 years ago. At the end of this 20-year period, there is no requirement for the LEO satellite provider to maintain agreed

[1] U.S. Starlink Data Points to Larger Addressable Base for LEO Broadband ISPs | Ookla®

performance levels. The "capacity subgrant" is specifically being put in place by the NTIA in hopes that the already poor broadband performance noted in the prior section can even be achieved during the program period.

Further, even if the technology can sustain its already questionable current performance over 20 years, the NTIA should consider whether this is sufficient. The demand for higher broadband speeds has consistently grown at a high rate ever since widespread usage of the Internet began. It is reasonable to expect that there will continue to be growth in performance expectations, such as reliability, bandwidth, and latency. LEO's ability to support this growth is questionable. Key limiting factors include the number of satellites that can be deployed, the throughput for each satellite, and the availability of spectrum.

By comparison, the expected lifetime of a passive optical network is 50 to 60 years.[2] During this period, industry data clearly shows savings in operational expenses, greater sustainability, and consistent & upgradeable broadband performance. Passive optical networks have already successfully transitioned through multiple upgrades of transmission technology and speeds and are still orders of magnitude away from their theoretical limits.

* * *

AFL would like to thank the NTIA for the opportunity to comment on this proposal. We fully support the NTIA's goal of expanding access to reliable broadband. It is in our national interest for all Americans to have access to reliable broadband, at the required speeds, now and for generations to come. For these reasons, we remain concerned that the technologies in this proposal - particularly LEO satellites - will not meet current or future demands. Only optical networks have the right combination of durability and future upgradeability and deploying them will meet the needs of Americans for generations, much like the rural electrification programs of the last century.

Respectfully Submitted

Seán P. Adam
Vice President, Market Strategy & Innovation
AFL Telecommunications, LLC
September 10, 2024

[2] Expected Life time of Passive optical infrastructures, EuropaCable 2020