BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of Connect America Fund	WC Docket No. 10-90

COMMENTS OF ALASKA COMMUNICATIONS SYSTEMS

Alaska Communications Systems ("ACS")[1] hereby submits these comments in response to the recent Public Notice ("Notice") issued by the Wireline Competition Bureau and Office of Engineering and Technology ("Commission Staff") in the above-captioned docket.[2]

INTRODUCTION

Because the Commission has determined that Connect America Fund ("CAF") Phase II funds should be distributed based on a commitment from the recipients to meet certain voice and broadband performance requirements, ACS understands the Commission's interest in measuring recipients' compliance with these requirements. While compliance with voice and broadband usage and affordability mandates can be evaluated based on documentary evidence, speed and latency compliance can most reliably be judged, as suggested by the Notice, based on network based measurements of actual broadband performance.

As the Notice makes clear, there is a great deal of work to be done, and a great many unanswered questions surrounding the development of the CAF Phase II performance testing program. ACS focuses these comments on issues specific to the operating broadband networks

[1] In these comments, "Alaska Communications Systems" signifies the incumbent local exchange carrier ("ILEC") operating company subsidiaries of Alaska Communications Systems Group, Inc.: ACS of Alaska, LLC, ACS of Anchorage, LLC, ACS of Fairbanks, LLC, and ACS of the Northland, LLC.

[2] *Connect America Fund*, WC Docket No. 10-90, Public Notice, "Wireline Competition Bureau and the Office of Engineering and Technology Seek Comment on Proposed Methodology for Connect America High-Cost Universal Service Support Recipients to Measure and Report Speed and Latency Performance to Fixed Locations," DA 14-1499 (rel. Oct. 16, 2014).

in the state of Alaska. Specifically, ACS urges the Commission, as it crafts rules to govern broadband speed and latency testing, to ensure that the rules observe the Commission's previous modifications of the performance requirements to reflect the unique costs and challenges of meeting the CAF Phase II requirements in Alaska.

Nevertheless, ACS urges the Commission to be mindful of the substantial costs associated with the options the Commission raises. These are particularly acute for small providers, such as ACS, and could raise the overall cost of CAF Phase II significantly.[3] While compliance with the CAF Phase II performance metrics is important, ACS reminds the Commission that every dollar spent on compliance testing is a dollar that is not available for deployment of additional broadband facilities and services. As such, ACS urges the Commission to develop testing processes that are as cost-efficient for the ETCs that will receive high cost support as possible.

DISCUSSION

A. The Testing Requirements Should Reflect Alaska-Specific Needs

1. The Speed and Latency Measurements Should Be Conducted Between Points in Alaska

The Notice seeks comment on "the methodology to be used for demonstrating compliance with the speed obligations for ETCs that receive high cost support to deploy

[3] Although the Commission has offered ACS the option to elect to continue to receive its current CAF Phase I frozen support level during CAF Phase II, it has sought comment on whether to use the model results as the starting point for determining ACS's voice and broadband service commitment in Alaska. *Connect America Fund*, WC Docket No. 10-90, Report and Order, Declaratory Ruling, Order, Memorandum Opinion and Order, Seventh Order on Reconsideration, and Further Notice of Proposed Rulemaking, FCC 14-54 (rel. June 10, 2014), at ¶ 208.

broadband networks to fixed locations."[4] The Commission has recognized that its testing protocol must be tailored to accommodate the network realities confronting those CAF Phase II support recipients that serve points outside the 48 contiguous states ("non-CONUS providers"). Specifically, the Commission held that, for purposes of determining compliance with the Commission's 100ms round trip latency standard applicable to CAF Phase II broadband, such non-CONUS providers may measure latency between the customer and "a point at which traffic is consolidated for transport to an Internet exchange point in the continental United States."[5] It did so in recognition that the long undersea cable transport links connecting non-CONUS areas of the nation to Internet exchange points in the 48 contiguous states could affect latency determinations and make it more difficult for ACS to meet the CAF Phase II latency standard, for reasons wholly outside of ACS's control.

In Alaska, compliance with the CAF Phase II speed standard is intertwined with the same issues that affect compliance with the latency standard. Now that the Commission has adopted a 10 Mbps downstream speed standard for CAF Phase II,[6] measuring compliance with the CAF Phase II performance standards between points within Alaska, rather along the entire connection to Internet exchange points in Oregon and Washington is even more important to ACS. In

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[4] Notice at ¶ 5.

[5] *Connect America Fund*, WC Docket No. 10-90, Report and Order, DA 13-2115, 28 FCC Rcd 15060 (Wir. Comp. Bur. 2013), at ¶ 35. ("[P]roviders in noncontiguous areas of the United States should conduct their latency network testing from the customer location to a point at which traffic is consolidated for transport to an Internet exchange point in the continental United States. For example, speedtest.net has five servers located in Anchorage, Alaska, and one in Fairbanks, Alaska, that could be used for network testing.").

[6] News Release, "FCC Increases Rural Broadband Speeds under Connect America Fund," WC Docket No. 10-90 (rel. Dec. 11, 2014), at 1.

addition to increasing latency, the long distance between the end user customer location and the Internet exchange point in the lower 48 states increases the overall risk that network congestion at a particular point along the way could reduce observed broadband speeds, likewise making it more difficult for ACS to meet the CAF Phase II performance requirements than it will be for other carriers. In addition, such testing would not accurately capture the overall user experience in "actual use" scenarios, which in many cases involve connections between points in Alaska. For example, a remote village in northern Alaska may want to video-teleconference with a classroom at the University of Alaska Fairbanks. Testing in this case should be done from the village to a server in Fairbanks to best reflect the level of network performance that would be experienced by the villagers. This would be a better, more realistic test than using a server in the lower 48 states.

The Commission Staff should therefore create testing procedures and requirements that expressly accommodate this determination. In this regard, while the Notice seeks comment on possible use of the Measuring Broadband America ("MBA") program for testing and reporting,[7] the MBA program does not appear to meet Alaska's needs. The MBA program, which is administered by SamKnows,[8] relies on speed tests that measure transmission speed using a specific payload between a "white box" located at the end user's premises, and a target server operated by SamKnows.[9] The list of target servers, however, does not appear to include any located in Alaska.[10]

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[7] Notice at ¶ 15-19.

[8] *See* https://www.samknows.com/about ("The SamKnows performance testing platform is used by the USA's Federal Communications Commission (FCC), European Commission, UK government (Ofcom), Brazilian government (Anatel), Singapore IDA and other government backed studies worldwide.").

[9] White Paper, "SamKnows Test Methodology: Methodology and Technical Information relating to the SamKnows Testing Platform," Document Ref. No. SQ301-003-EN (Sept. 2014), at 5 ("In the download speed test the client will fetch a portion of a 1GB binary (nonzero,

2. Test Sites Should Include Only Locations Served by Affordable Terrestrial Middle Mile Facilities

In addition to permitting testing to take place between points in Alaska, the Commission has also relaxed CAF Phase II performance requirements for locations that are not served by terrestrial middle mile transport facilities. Specifically, in the *Transformation Order*, the Commission stated, "[a]ny such funding recipients [that lack the ability to obtain terrestrial backhaul] must offer broadband service speeds of at least 1 Mbps downstream and 256 kbps upstream within the supported area served by satellite middle-mile facilities. Latency and capacity requirements discussed above will not apply to this subset of providers."[11]

ACS believes that the Commission should clarify that this exemption includes not only census blocks where terrestrial middle mile transport is unavailable, but also census blocks where terrestrial transport is at least as costly than satellite-based alternatives. For example, in Alaska, General Communication, Inc. ("GCI") recently constructed a monopoly terrestrial transport facility, TERRA, serving remote coastal regions of southwest and northwest Alaska, in part using federal financial assistance it received through the Rural Utilities Service's Broadband Initiatives Program ("BIP"). Despite receiving $88 million in public funding for these facilities,

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randomly generated) payload hosted on an HTTP server on the target test node . . . . In the upload test the client will generate the payload itself . . . to send to the server."), *available at:* https://www.samknows.com/broadband/uploads/methodology/SQ301-003-EN-Test-Suite-Whitepaper.pdf.

[10] White Paper, "Test Node Briefing: Technical Information Relating to the SamKnows Test Nodes," Document Ref. No. SQ302-001-EN (Apr. 2012), at 6-7 (listing servers in Atlanta, Washington, DC, Miami, Dallas-Fort Worth, New York, Chicago, Los Angeles, Mountain View, and Seattle), *available at:* https://www.samknows.com/broadband/uploads/methodology/SQ302-001-EN-Test-Node-Briefing-D01.pdf.

[11] *Transformation Order* at ¶ 101.

GCI maintains wholesale transport rates in the region that are more than double the rates for equivalent amounts of satellite transport capacity. Through unregulated monopoly rates for services it provides to schools, libraries, and rural health care providers in the region, GCI already uses its control of these bottleneck facilities to extract inflated and excessive payments from the federal E-rate and rural health care universal service support mechanisms. It would be inefficient and wasteful to require ACS to purchase terrestrial transport anywhere it is available, even at unregulated monopoly prices, simply to meet CAF Phase II performance metrics.

Similarly, although ACS does not anticipate using any CAF Phase II support to upgrade broadband service in census blocks served by satellite-based backhaul, ACS urges the Commission to clarify that such locations do not need to be included in CAF Phase II performance testing, especially given that the speed standard has been relaxed, and the latency standard does not apply in such areas.

B. Testing Techniques Should Be As Cost-Efficient As Possible

The Notice tentatively concludes that, "[t]he latency-testing options adopted for price cap carriers should provide at least one readily achievable method suitable for small, rural carriers"[12] and that a "speed testing mechanism similar to that adopted for latency should be easily manageable for even very small carriers."[13] ACS agrees that keeping the testing program manageable and low-cost is of paramount importance, especially for small carriers.

[12] Notice at ¶ 13.

[13] Notice at ¶ 12.

1. USAC Could Play an Important Role in CAF Phase II Performance Testing, but ETC Involvement Will Still Be Necessary

The Notice recognizes the cost and administrative benefits of consolidating the administration and implementation of the performance testing process, and proposes that USAC could fill that role.[14] ACS believes that USAC involvement could potentially reduce the overall costs of the testing program, while freeing ETCs that receive high cost support to use more of that support to deploy broadband facilities and offer broadband services. USAC's consolidated purchasing and test administration could reduce the burden on ETCs posed by the testing process.

Nevertheless, even with USAC involvement, ACS believes that it would need to work in partnership with USAC to ensure that the Commission's requirements are met. At a minimum, unless the specific locations where ACS has already used CAF Phase II support to deploy broadband have already been reported to USAC in prior years, ACS would likely need to identify the locations to be tested for USAC. The Notice states that testing should occur at "randomly-selected customer locations within the census blocks of each state for which the provider is receiving model-based support."[15] But, over the arc of the CAF Phase II deployment process, it is unlikely that ACS will be deploying broadband in all eligible census blocks simultaneously. Rather, the Commission should clarify that the testing should occur at eligible customer locations where the ETC has used high cost support to deploy voice and broadband service, and the customer has purchased broadband with a speed of at least 10/1. That would prevent meaningless testing from occurring at locations in eligible census blocks where the ETC

[14] Notice at ¶ 20.

[15] Notice at ¶ 3; *see also* Notice at ¶ 9.

has not yet used CAF Phase II support to offer qualifying voice and broadband service, or where the customer has opted not to purchase the service, or to purchase a lower-speed offering.

2. Both Internal Network Management Tools and External Measurement Methods Have Critical Limitations.

The Notice seeks comment on whether to measure speed performance using internal network management tools ("NMS"), external tools, such as Speedtest/Ookla or Network Diagnostic Tests ("NDT") from M-Labs, or using some other method.[16]

Regardless of which alternative the Commission chooses, the costs of CAF Phase II performance testing are likely to be substantial. As discussed below, ACS supports the proposal in the Notice to have the Universal Service Administrative Company ("USAC") shoulder a portion of those costs. Nevertheless, substantial costs of executing and administering the tests are likely to fall on the service provider. For ACS and other small providers, those costs may represent a significant financial commitment that will affect the overall cost of CAF Phase II compliance.

For example, ACS does not currently have internal NMS capabilities to measure and report broadband speed performance data that the Commission seeks, which would mean that those capabilities would need to be implemented in their entirety as part of the CAF Phase II deployment process. In procuring equipment for CAF Phase II deployment, ACS would be able to request that its vendors include alternatives that provide such NMS in their bids. Nevertheless, ACS does not know at this time what capabilities these vendors could offer, or how costly or effective such tools will be.

[16] Notice at ¶ 5.

External tools, such as Speedtest, have their own limitations because they rely, at least in part, on the actions of the subscriber. For example, ACS anticipates that the CAF Phase II rules will require it to "offer" broadband meeting the CAF Phase II performance standards to a certain number of customer locations during the term of the program,[17] which the Commission has recently increased to 10 Mbps downstream and 1 Mbps upstream.[18] ACS should receive "credit" for such 10/1 deployment based on the offer. If ACS were also to offer a slower speed of service, Speedtest would reflect the speed performance of service that the customer actually purchased, not the compliant 10/1 service that ACS offers.

"White box" options, such as those that underpin the MBA testing program present their own challenges. Given that the data will be used to measure compliance with the Commission's CAF Phase II performance requirements, it is vital that the devices be installed correctly and in a consistent manner. The user installation process used in the MBA program introduces several variables into the process that would be outside of ACS's or USAC's control. In such a case, it would be difficult to determine whether a "failing" measurement was the result of incorrect installation of the box by the user, or a true network issue. To the extent that ACS network technicians need to be involved to ensure proper deployment of the boxes, the costs of individual truck rolls for each participating customer would quickly escalate.

[17] *See, e.g., Connect America Fund*, WC Docket No. 10-90, Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161, 26 FCC Rcd 17663 (2011) ("*Transformation Order*"), at ¶ 160.

[18] News Release, "FCC Increases Rural Broadband Speeds under Connect America Fund," WC Docket No. 10-90 (rel. Dec. 11, 2014), at 1.

CONCLUSION

For the foregoing reasons, ACS urges the Commission to tailor the CAF Phase II broadband performance testing program to address the challenges of providing service in Alaska, and to adopt testing procedures that keep the program efficient, manageable, and low cost, especially for small providers, such as ACS.

Respectfully submitted,

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