Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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

COMMENTS OF
WTA – ADVOCATES FOR RURAL BROADBAND

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Summary

WTA – Advocates for Rural Broadband ("WTA") supports full funding of both the Alternative Connect America Cost Model ("ACAM") Path and the Rate of Return ("RoR") Path. Specifically, WTA seeks full funding of the ACAM Path at the original August 3, 2016 support offers and associated build-out obligations for all entities that accepted the revised December 20, 2016 offers; and comparable full funding of the RoR Path by eliminating the unpredictable and investment-inhibiting Section 54.904(f) budget control mechanism and adopting an inflation adjustment for the controlling RoR budget.

Full funding of ACAM at the initial $200 per location funding benchmark would require an additional allocation of $110 million per year from the CAF Reserve, but would enable 25/3 Mbps broadband service to be deployed to 35,444, and 10/1 Mbps service to be deployed to 35,738, of the more remote and expensive-to-serve locations to which rural local exchange carriers ("RLECs") have previously been unable to extend their broadband networks. Full funding would also eliminate the current anomaly and inequity wherein RLECs are scheduled to receive less model-based support per location than their price cap counterparts while being subject to more stringent build-out requirements.

If, for any reason, the Commission is able only to partially increase the funding of the ACAM Path, WTA suggests that it: (1) take the first $45 million per year of additional CAF Reserve allocation to restore the funding of all affected ACAM participants to a $146.10 per location funding benchmark, and then increase that benchmark as much as possible toward the original $200 per location level; and/or (2) extend the term of the ACAM Path beyond the present 10 years.

Full funding of the more than 55 percent of RLECs that remain on the RoR Path is necessary to provide reasonably comparable broadband to their rural customers, as well as for equitable reasons. Not only were 162 RLEC entities precluded from electing the ACAM Path due to their past achievements in deploying 10/1 Mbps broadband, but also other RLECs were effectively prevented from electing ACAM because apparent flaws in the model resulted in offers of support that were wholly insufficient to meet their existing costs or future build-out obligations.

Full funding of the RoR Path essentially means eliminating the unpredictable Section 54.901(f) budget control mechanism that is having an adverse impact upon broadband investment incentives and financing. It should also include an inflation adjustment for the High Cost program similar to those adopted for other Universal Service Fund mechanisms. It is estimated that the additional cost of full RoR Path funding would range from $100 million to $260 million per year without an inflation adjustment, and from $41 million to $160 million per year with one.

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WTA – Advocates for Rural Broadband ("WTA") hereby submits its comments with respect to the *Further Notice of Proposed Rulemaking* in this proceeding, 82 Fed. Reg. 4275 (January 13, 2017) ("*FNPRM*"). WTA supports not only: (a) further increase of the budget for the Alternative Connect America Cost Model ("ACAM") Path to fully fund the original August 3, 2016 support offers and associated build-out obligations for all entities that accepted the revised December 20, 2016 offers; but also (b) comparable full funding of the Rate of Return ("RoR") Path by eliminating the unpredictable and investment-deterring budget control mechanism in Section 54.904(f) of the Commission's Rules and adding an inflation adjustment to the RoR budget comparable to those adopted for other Universal Service Fund ("USF") mechanisms.

Introduction

WTA is a national trade association representing more than 325 rural telecommunications providers offering voice, broadband and video-related services in Rural America. WTA members are generally small rural local exchange carriers ("RLECs") that serve some of the most rugged, remote and/or sparsely populated areas of the United States. They are providers of last resort to many areas and communities that are both very difficult and very expensive to serve.

One hundred forty-eight (148) of WTA's 328 member companies (45.12 percent) have elected to accept ACAM offers and build-out obligations, while the remainder have either chosen or been forced to remain on the RoR Path.

WTA believes that the unanticipated large number of RLEC entities electing the ACAM Path gives the Commission a golden opportunity to determine the capability of model-based Universal Service funding to encourage and achieve broadband deployment in high-cost rural areas. A fair analysis of the effectiveness and efficiency of this approach is most likely if ACAM is funded fully at the $200 per-location benchmark used to calculate the initial August 3, 2016 offers and build-out obligations.

At the same time, for reasons of both equity and comparability, the Commission should fully fund the existing and new RoR Path support mechanisms as well. First, many RLECs were denied a reasonable opportunity to elect and participate in the ACAM Path. Second, there can be no accurate comparison of the effectiveness of the two regulatory approaches in achieving broadband deployment and adoption if RoR carriers: (a) continue to be capped in the aggregate at the same high-cost support they received in 2011; (b) are required to charge broadband service rates far above reasonably comparable urban rates; and (c) are subject to substantial and unpredictable "budget control" reductions of their calculated high-cost support.

The present circumstances also constitute a critical and timely opportunity to make significant progress in deploying a fiber-based broadband network throughout much of Rural America. A heavily fiber-based public broadband network not only will help to produce reasonably comparable services and affordable rates for rural households and businesses, but also may help to reduce the costs of E-Rate, Rural Health Care and Lifeline programs. As the Commission is aware, it is more efficient and economical in the long run to install fiber-to-the-

home ("FTTH") or fiber-to-the-curb ("FTTC") facilities within a rural exchange or other service area as part of a single integrated project, rather than bringing in construction equipment and crews multiple times over several years to extend fiber gradually, in steps, toward customer locations and clusters to upgrade digital subscriber line ("DSL") service. Moreover, once FTTH or FTTC deployment is completed in an area, the scalable nature of fiber networks permits both downstream and upstream bandwidth to be increased in response to consumer needs and demands by changing the electronics at both ends of loops. Such bandwidth increases will become increasingly necessary as broadband applications multiply, as end users require more and more upstream bandwidth for business and personal purposes, and as the "Internet of Things" grows in importance. Finally, fiber networks can be less expensive and less labor intensive to maintain. For example, whereas DSL facilities have multiple points of failure (up to 11 or so) that have to be monitored and tested along lengthy rural loop routes when customers report service problems, FTTH loops have only two points of failure and both can be monitored and tested from the RLEC's central office.

The experience of one WTA member demonstrates the advantages of fiber deployment as follows:

> We looked at a 90-home subdivision in 2014. For the copper capital investment, it would cost in the vicinity of $165,000 to get the plant into the ground. For the fiber, it would cost in the vicinity $215,000. These capital investment estimates included network interface devices ("NIDs") and optical network terminals ("ONTs"). So, for initial construction alone, the cost of copper plant would have been $50,000 less than the cost of fiber plant.
>
> However, once you initiate broadband service for every customer, there is a marginal cost of $350 per subscriber for DSL service on copper, while the marginal cost is about $150 per subscriber for fiber service. Included in these marginal costs are modems, cards and truck rolls - essentially anything you have to do on top of the basic network to get the service operating to the customers. So, for a 90-home subdivision, that $200 difference in marginal cost alone reduces the cost difference between a copper build and a fiber build by $18,000 to $32,000.

> Then we can talk maintenance. We ran a study on trouble tickets and truck rolls from July 2012 to June 2013. During this period, our customer base was essentially split 50/50 between copper and fiber with a total subscriber count of about 3200 -- so 1600 subscribers each. In that year, we witnessed 594 trouble tickets from our fiber customers, with 47 requiring a truck to roll. For our copper customers, we witnessed 1,811 trouble tickets, with 623 requiring truck rolls. From this I developed a simple rule that you will see 300 percent more trouble tickets from copper subscribers and 900 percent more truck rolls from copper subscribers.
>
> So going back to the 90-home subdivision, in 20 years there would be an estimated 1,800 trouble tickets from copper subscribers and an expected 600 truck rolls at a cost of $100 per roll - for a total maintenance expense of $60,000. For the comparable fiber network, there would be an estimated 600 trouble ticket calls and 60 truck rolls (at the same cost of $100 per roll) – for a total maintenance expense of $6,000.
>
> Overall, the total construction, marginal and maintenance costs for the 90-home subdivision would be $256,500 for a copper build and $234,500 for a fiber build – or $22,000 less for the fiber build.

WTA notes that its member's example does not address the fact that FTTH and FTTC facilities are scalable and can be increased in bandwidth far above 25/3 and 10/1 as broadband service demands increase, while copper DSL plant has far more limited bandwidth upgrade capabilities, particularly for longer loops. For many RLECs, it is likely to be much more efficient and economical to extend fiber to the home or curb as soon as possible rather than to upgrade DSL in stages until bandwidth demands finally leave no other alternative than to change over from DSL to FTTC or FTTC.[1]

Finally, the growth of high-speed broadband networks serving rural areas should include improved connections to and from the schools, libraries and health care facilities serving those areas, and should help to create feasible options for reducing the costs (and, in some cases, the uses of duplicative facilities) with respect to E-Rate and Rural Health Care programs. Likewise, the increased deployment of higher speed broadband networks will enable access to reasonably

[1] WTA recognizes that some operating costs can increase – for example, middle mile costs – as higher speed fiber networks carry larger and larger amounts of traffic.

comparable and affordable advanced services to all customer households (including low income households) that they pass, and can be utilized to help to provide Lifeline services more efficiently and economically.

The ACAM Path Should Be Fully Funded

Two hundred and seventeen (217) RLEC entities elected revised ACAM Path support on a state-wide basis as of January 19, 2017, plus another 45 RLEC entities previously elected ACAM Path support via the "glide path" transition mechanism as of November 1, 2016. This substantial and unexpected voluntary migration to the ACAM Path has presented the Commission with a unique opportunity to investigate whether model-based support can effectively and efficiently increase broadband deployment in rural high-cost areas.

Fully funding ACAM would require an allocation of approximately $310 million per year for the CAF Reserve, or approximately $110 million more that presently allocated. This additional CAF Reserve allocation will increase the aggregate annual ACAM budget from approximately $528 million to $638 million (a 20.83 percent increase), and will enable the total number of locations nationally with ACAM-based 25/3 Mbps service obligations to be increased from 326,732 to 362,176 (a 10.85 percent increase), and the total number of locations with ACAM-based 10/1 Mbps service obligations to be increased from 224,519 to 260,257 (a 15.92 percent increase). This represents a very substantial public interest benefit, particularly because most of the newly served locations are comprised of more remote and expensive locations to which RLECS have previously been unable to extend broadband.

Moreover, the ACAM model appears to have been optimized at the $200 per location funding benchmark utilized to calculate the initial August 3, 2016 ACAM support offers and associated build-out obligations. The $200 benchmark was based upon a determination that

some locations are so very remote and/or extremely expensive that they cannot reasonably be supported by a terrestrial wireline or fixed wireless network, and should instead be served by satellite or other technologies. The $200 benchmark was a reasonable compromise intended to avoid excessive support for extreme outlier locations while limiting the number of such locations that would have to deal with the disconcerting voice service delays and atmospheric interference of satellite service. As the ACAM funding benchmark is reduced further and further below $200 per location, the numbers of households forced to receive lower speed broadband service or satellite service increase.

In the *Report and Order* portion of the subject ruling,[2] the Commission responded to budget limitations by reducing the ACAM funding benchmark from $200 to $146.10, and then further reducing ACAM support offers by varying percentages (from 4.03882 percent to 20 percent) based upon the portion of the RLEC entity's locations lacking 10/1 Mbps. The $146.10 figure was based upon the $146.10 per location funding benchmark established for price cap carriers in the CAF Phase II proceeding. Given that RLECs serve remote and sparsely populated rural areas that the price cap carriers refused to serve (or discarded as soon as their state commissions permitted), it stands to reason that RLEC service areas are significantly more expensive to serve than price cap areas and that their model-based funding benchmark should be higher than that of the price cap carriers. Moreover, RLEC model-based support is decreased further by the various additional percentage reductions based upon 10/1 Mbps categories, so that the RLECs that accepted the revised December 20, 2016 ACAM offers are actually scheduled to receive less model-based support per location and to be subject to higher build-out obligations than their lower cost price cap counterparts.

[2] *Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, WC Docket No. 10-90, FCC 16-178, released December 20, 2016, at par. 8 ("*Report and Order*").

WTA urges the Commission to take advantage of its unique and timely opportunity to expand the deployment of more heavily fiber-based networks in Rural America, and to do so while examining whether model-based support can be more effective and efficient in producing increased broadband investment and deployment. Full funding at the $200 per location benchmark will ensure that the ACAM model will be deployed at the levels of support and associated build-out obligations at which it was optimized.

Potential Alternatives to Full ACAM Funding

The *Further Notice of Proposed Rulemaking* also sought comment on increasing the ACAM budget by a lesser amount. *Report and Order,* at par. 18.

WTA does not advocate anything less than full funding of ACAM at the $200 benchmark per location. However, if the Commission is unable, for any reason, to allocate the entire additional $110 million per year needed for full funding, WTA notes that the Commission could proceed by: (a) taking the first $45 million per year of additional allocated CAF Reserve to eliminate the 4.03882 percent to 20 percent additional reductions for various 10/1 Mbps categories that were adopted in paragraph 8 of the *Report and Order*, and fund all RLEC entities accepting the revised December 20, 2016 offers at the same $146.10 benchmark per location; and (b) then use any additional funding to increase the per location funding benchmark from $146.10 to a level as close as possible to the $200 per location benchmark.

Another possibility would be to extend the term of the ACAM Path beyond the present 10 years. It is not clear to WTA why 10 years was selected as the ACAM term. Most Rural Utilities Service ("RUS") and other bank loans for infrastructure investment have terms of 15 years or more. Fiber optic loops themselves have useful lives of 25-to-30 years or so. Whereas there are legitimate concerns that 10/1 Mbps and 25/3 Mbps broadband speeds will be

inadequate to satisfy customer demands in 10 years, this problem can be reduced if increased ACAM funding results in the deployment of larger amounts of scalable FTTH and FTTC facilities. Hence, if full ACAM funding is not available on the basis of a 10-year term, it may make sense to extend the ACAM term to 12 or 15 or some other optimal number of years and revise required build-out milestones and obligations so that ACAM Path participants can schedule their broadband build-outs more efficiently.

The RoR Path Should Be Fully Funded

A very substantial portion of RLEC entities have remained on the RoR Path for various voluntary and involuntary reasons. Specifically these non-ACAM carriers continue to serve approximately 65 percent of total RLEC lines in many of the highest cost areas in Rural America – that is, those areas most in need of sufficient high cost funding to achieve reasonably comparable broadband services[3]. If the dreams and advantages of deploying a fiber-based broadband network throughout much of Rural America are to be realized, these companies also need to receive the explicit and sufficient Universal Service support mandated by Section 254(e) of the Communications Act. Moreover, if the Commission expects to generate reliable comparisons of the effectiveness of model-based ACAM support versus traditional RoR support mechanisms in encouraging and attaining broadband deployment, it needs to fully fund the RoR Path as well. There can be no valid comparison between a 2016-2017 fiber-based ACAM model and a 2011 copper-based, dial-up era RoR budget.

[3] As one measure of the high cost of these rural service areas: based on initial projected 2017 legacy high cost funding prior to budget control, the remaining RoR Path carriers would receive close to 80% of total RLEC legacy support compared to approximately 20% that would have gone to ACAM Path companies but for their election of model-based support.

Moreover, it must be emphasized that 162 RLEC entities[4] were precluded by the Commission from participating on the ACAM Path because they had already deployed 10/1 Mbps or greater broadband to 90 percent or more of their eligible locations. These carriers had complied with recent Commission policies encouraging them to deploy broadband, but were deprived of the option to elect the ACAM Path as a result of their early efforts and achievements. The Commission has conceded that "carriers that are fully deployed in some cases have taken out loans to finance such expansion and therefore may have significant loan repayment obligations for years to come," but claims that such RLECs "are not prejudiced by their inability to elect the voluntary path to the model" because they can still continue to receive High Cost Loop Support ("HCLS") and Connect America Fund Broadband Loop Support ("CAF-BLS").[5] The obvious problem with exclusion from ACAM eligibility due to extensive 10/1 Mbps broadband deployment is that 10/1 service is already well on its way to obsolescence. 10/1 Mbps service generally does not require the scalable FTTH or FTTC facilities that are needed if an RLEC is to be able to respond readily to future increases in broadband speed demands. Moreover, 10 Mbps downstream and particularly 1 Mbps upstream capacities are increasingly inadequate for the needs of rural businesses and households.[6]

In addition, the ACAM model was adapted from a price cap model, and does not accurately capture and depict the very different service areas, network designs, operating conditions and customer bases of the many and varied RLECs. Many RLECs and consultants have reasonably challenged the accuracy of ACAM with respect to certain sizes and types of

[4] Source: Public Notice (*Wireline Competition Bureau Announces Support Amounts Offered to Rate-of-Return Carriers to Expand Rural Broadband*), WC Docket No. 10-90, DA 16-869, released August 3, 2016. Report 7.3 – Eligible Yes/No Report, pages 27-33.

[5] *Connect America Fund et al.*, Report and Order, Order and Order on Reconsideration, and Further Notice of Proposed Rulemaking, WC Docket Nos. 10-90 and 14-58 and CC Docket No. 01-92, FCC16-33, released March 30, 2016 at par. 66.

[6] For example, farmers and ranchers increasingly participate in video auctions for their livestock, and need more than 1 Mbps capacities upstream to show their animals.

rural networks and service areas. In many cases, the flaws in the A-CAM modeling arbitrarily saddled some RLECs with ACAM offers that were so much lower than their existing RoR support and so far below any level that could reasonably be deemed "sufficient" to meet their existing costs or future build-out obligations that the RLECs were effectively precluded for opting onto the ACAM Path.

WTA believes that the public interest benefits of fiber-based broadband deployment, as well as equitable considerations, require full funding of the RoR Path as well as the ACAM Path. By "full funding," WTA means that the "budget" imposed upon the RoR Path (after factoring out ACAM support, Alaska Plan support and CAF-ICC support) should be the full amount calculated for CAF-BLS support (plus any and all applicable HCLS and Safety Valve Support). At minimum, this entails elimination of the budget control reduction set forth in Section 54.901(f) of the Commission's Rules. It should also entail a High Cost support inflation adjustment similar to those adopted for other USF mechanisms.

WTA does not seek any change in the transition of the rate of return percentage from 11.25% to 9.75%, nor elimination of the Capital Investment Allowance and Operating Expense limitations in Section 54.303 of the Commission's Rules[7]. These are being implemented, and are deemed to be necessary and sufficient to ensure that the capital and operating expenses supported by the RoR Path mechanisms will be reasonable and prudent, and that such support will be used for the purposes intended.

However, the Section 54.901(f) budget control mechanism is proving to be a major impediment to broadband investment by RLECs on the RoR Path. Whereas substantial broadband investment projects generally entail 25-to-30-year useful lives and 15-year loan

[7] There are some adjustments required to assure proper implementation of these new mechanisms as identified in pending petitions for reconsideration.

repayment schedules, the budget control mechanism threatens to reduce an RLEC's expected annual high-cost support by unpredictable percentages on an annual basis. RLECs have already been subjected to budget control support reductions of approximately 5.0 percent for the period from September to December of 2016, and an estimated 9.1 percent for the first half of 2017. Projected future "haircuts" range from about 5 percent to around 20 percent of aggregate RoR Path high cost support, depending upon the assumptions made by various organizations and consultants. All that is really knowable is that these "budget control" reductions of support will occur every year, and that they can vary significantly depending upon the actions of hundreds of other RoR Path RLECs. With this much uncertainty, RoR Path members of WTA are encountering increasing difficulties in obtaining funding and approvals for substantial new broadband deployment projects.

WTA has seen estimates of approximately $1 billion to $2.64 billion (or averages of $100 million to $260 million per year) to fund the RoR Path without the Section 54.901(f) budget control mechanism. If the RoR budget were increased each year by an average inflation factor, the additional "full funding" amounts are estimated at approximately $410 million to $1.6 billion million over a ten-year period (or an average of $41 million to $160 million per year). These amounts are comparable to the amounts of CAF Reserve being used to fund ACAM above legacy levels, and would enable rural households and businesses in all RLEC service areas to obtain upgraded broadband services.

Conclusion

WTA urges the Commission to take advantage of its extraordinary and timely opportunity to escalate the deployment of a fiber-based broadband network throughout major portions of Rural America. Full funding of both the ACAM Path and the RoR Path will allow this broadband deployment to be accomplished in a more comprehensive and cost-effective manner, while the scalability of increasing proportions of FTTH and FTTC facilities will allow broadband speeds to keep up better with increasing demands. Among other matters, WTA looks forward to discussing with the Commission ways in which the envisioned greater fiber deployment not only will help to provide advanced and affordable services to rural households and businesses, but also may help to reduce the costs of the Commission's E-Rate, Rural Health Care and Lifeline programs.

Respectfully submitted,
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