

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Connect America Fund)	WC Docket No. 10-90
)	
A National Broadband Plan for Our Future)	GN Docket No. 09-51
)	
Establishing Just and Reasonable Rates for Local Exchange Carriers)	WC Docket No. 07-135
)	
High-Cost Universal Service Support)	WC Docket No. 05-337
)	
Developing an Unified Inter-carrier Compensation Regime)	CC Docket No. 01-92
)	
Federal-State Joint Board on Universal Service)	CC Docket No. 96-45
)	
Lifeline and Link-Up)	WC Docket No. 03-109
)	
Universal Service Reform – Mobility Fund)	WT Docket No. 10-208

**REPLY COMMENTS
of the
NATIONAL EXCHANGE CARRIER ASSOCIATION, Inc.;
NATIONAL TELECOMMUNICATIONS COOPERATIVE ASSOCIATION;
ORGANIZATION FOR THE PROMOTION AND ADVANCEMENT OF
SMALL TELECOMMUNICATIONS COMPANIES; and the
WESTERN TELECOMMUNICATIONS ALLIANCE**

February 17, 2012

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EXECUTIVE SUMMARY

The Commission should expeditiously adopt the RLEC Plan as the CAF mechanism for RoR carriers. Initial comments confirm that the “reforms” adopted in the Order for RoR carriers will prevent them from making available “reasonably comparable” broadband services and rates to rural consumers, and the proposals in the FNPRM will only make matters worse. By adopting the RLEC Plan, the Commission can establish a reasonable and well-defined CAF mechanism that provides sufficient and predictable support for the provision of broadband service in RLEC areas.

The RLEC Plan has several advantages over the reforms adopted in the Order and those proposed in the FNPRM. These include: (1) avoidance of legally questionable retroactively-applied constraints on cost recovery, (2) a mechanism that promotes broadband adoption by tying a carrier’s interstate cost allocation to its broadband take rate, (3) a broadband urban wholesale cost benchmark for determining support that will provide RLECs with the incentive to be more efficient in their retail operations, and (4) a Transitional Stability Plan that would avoid “flash-cuts” to reduced support levels that some RLECs will face under the plan, while having no impact on the overall budget.

The record does not support prescription of a new authorized interstate rate of return. The Commission’s approach to the represcription process is flawed. First, traditional methods for represcribing the rate of return based on national interest rate trends and large company data are inadequate for determining RLECs’ costs of capital. In addition, a fact-based hearing that provides parties with a full and fair opportunity to present and respond to evidentiary showings is required. The record is also noteworthy in that most parties in favor of a reduction in the rate of return provide no evidence

whatsoever in support of their position. Conversely, the Rural Associations have provided extensive analyses and facts demonstrating that the existing rate of return of 11.25 percent appears, if anything, to be conservative, not excessive. Therefore, the current authorized rate of return should remain in place pending the development of procedures governing cost of capital determinations and a full evidentiary hearing on the matter.

The record, along with further analysis provided by the Rural Associations, conclusively demonstrates that the Commission's proposed quantile regression methods would limit RLECs' reimbursement for capital and operating costs in an arbitrary and capricious manner and should not be adopted. Tellingly, not a single party filed in support of the proposed regression methodology. Commenters are heavily critical of the Commission's models, stating, among other things, that: (1) applying the model retroactively to prior investments is unfair (and unlawful), (2) the data used to develop the models do not represent the true cost drivers of providing service in RLEC territories, and (3) the use of the 90th percentile cut-off is arbitrary and would harm rural consumers.

The overwhelming majority of commenters continue to highlight the substantial complications and concerns of a mechanism to reduce support in study areas with "unsubsidized competition." By contrast, the few proponents of such a mechanism once again fail to provide any specific details of how their proposals would work or how they would affect rural consumers. Therefore, the Commission should dismiss the notion of reducing or eliminating support in areas with purported "competitive overlap" unless and until it has sorted through the following, in detail: (1) the precise means for current and regularly refreshed identification of truly "unsubsidized competition," including the

process by which such competition will be validated, (2) the process by which support might be reduced in areas affected by such validated “unsubsidized competition,” and (3) the impacts on rural consumers and the implications for COLR obligations upon which many rural end users depend. In addition, the Commission should finalize and monitor the effects of reducing support in areas with 100 percent competitive overlap before moving to reduce support in areas with less than 100 percent overlap.

Commenters agree that, at least until such time as the Commission adopts a sufficient and predictable CAF mechanism for RoR carriers, it should not impose any additional broadband-related public interest obligations and other mandates on these carriers. Also, should the Commission adopt broadband service measurement and reporting requirements, they should be flexible in nature and take advantage of broadband performance data already available. In addition, commenters reject the proposal to require CAF recipients to obtain an irrevocable standby LOC, as this requirement is unnecessary and overly burdensome, particularly for small carriers.

Finally, there are several steps the Commission can take to better enable small wireless carriers to deploy service to additional rural consumers. These include: (1) adoption of reasonable roaming regulations that would increase coverage in rural areas while decreasing rural carriers’ dependency on Mobility Fund support, (2) adoption of criteria to maximize the number of rural areas eligible for Phase II Mobility Fund support, and (3) adoption of measures to maximize small wireless carrier participation in Mobility Fund auctions.

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I. INTRODUCTION

The Rural Associations listed above¹ hereby submit reply comments in the above-captioned proceedings.² Initial comments filed in response to sections XVII A-K of the

¹ The National Exchange Carrier Association, Inc. (NECA), the National Telecommunications Cooperative Association (NTCA), the Organization for the Promotion and Advancement of Small Telecommunications Companies (OPASTCO), and the Western Telecommunications Alliance (WTA).

² *Connect America Fund*, WC Docket No. 10-90, *A National Broadband Plan for Our Future*, GN Docket No. 09-51, *Establishing Just and Reasonable Rates for Local*

Further Notice of Proposed Rulemaking (FNPRM) confirm the need for a sufficient and predictable Connect America Fund (CAF) mechanism for rural rate-of-return regulated local exchange carriers (RLECs). Commenters agree that the “reforms” to RLECs’ high-cost support mechanisms adopted in the Order, and those proposed in the FNPRM, will prevent RLECs from making available “reasonably comparable” broadband services and rates to their rural customers. The Commission should instead adopt the RLEC Plan for Universal Service Fund (USF) and intercarrier compensation (ICC) reform,³ which stands alone in the record as the only comprehensive and implementable proposal for a CAF for rate-of-return (RoR) service areas.

In addition, the record is insufficient to support a reduction of the current authorized interstate rate of return. Instead, the existing rate should remain in place, as the Commission’s overall approach to the represetation process is procedurally flawed and evidentiary showings presented by the Rural Associations make clear that the current rate of return reasonably represents the cost of capital for RLECs.

The record also makes clear that the Commission should reconsider its decision to employ quantile regression methods to limit RLECs’ reimbursement for capital and operating costs. Like the Rural Associations, commenters are heavily critical of the

Exchange Carriers, WC Docket No. 07-135, *High-Cost Universal Service Support*, WC Docket No. 05-337, *Developing an Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, *Lifeline and Link-Up*, WC Docket No. 03-109, *Universal Service – Mobility Fund*, WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161 (released November 18, 2011) (Order & FNPRM).

³ Comments of NECA, OPASTCO, NTCA, and WTA, WC Docket No. 10-90, *et al.* (filed April 18, 2011) (Rural Associations’ April 18, 2011 Comments), as modified by the “Consensus Framework.” *See*, Letter from Walter B. McCormick, Jr., United States Telecom Association, *et al.*, to Chairman Genachowski, FCC, WC Docket No. 10-90, *et al.* (filed July 29, 2011) (Consensus Framework).

Commission’s models and, tellingly, not a single party filed in support of the proposed methodology.

Proponents of reducing high-cost support in RLEC study areas with “unsubsidized competition” once again fail to provide any specific details of how this would work or how it would affect rural consumers, thereby providing no credible basis to implement such a mechanism. If the Commission pursues this path, it must first adopt a robust and well-defined process for identifying areas with truly unsubsidized competition and how support might be reduced in these areas. It should then monitor the effects on rural consumers and the implications for carrier of last resort (COLR) obligations in areas with 100 percent competitive overlap *before* moving to reduce support in areas with less than 100 percent overlap.

The record does not support the application of any additional broadband-specific public interest obligations or other new mandates to RLECs, at least until such time as a sufficient and predictable CAF is adopted for RoR carriers. Commenters agree that the additional mandates proposed in the FNPRM are overly burdensome and unnecessary and would only divert scarce resources from rural broadband network investment.

Finally, there are several steps the Commission can take to better enable small, mobile wireless carriers to deploy service to additional rural consumers. These include reasonable roaming regulations, criteria to maximize the number of rural areas eligible for Phase II Mobility Fund support, and measures to maximize small wireless carrier participation in Mobility Fund auctions.

II. THE RECORD REINFORCES THE NEED FOR A SUFFICIENT AND PREDICTABLE CAF MECHANISM FOR RLECS

A. The High-Cost Program Reforms Adopted in the Order Will Prevent RLECs from Making Available “Reasonably Comparable” Broadband Services in their Territories

The initial comments filed in response to the FNPRM reinforce the need for a sufficient and predictable CAF mechanism that enables RLECs to make available, throughout their service areas, broadband services that are “reasonably comparable” to those available in urban areas and at “reasonably comparable” rates. While the Order states that it will “ensure that robust, affordable voice and broadband service, both fixed and mobile, are available to Americans throughout the nation,”⁴ and frequently suggests that it will provide carriers with greater regulatory certainty and predictability,⁵ the reality is starkly different. The “reforms” already adopted in the Order for RoR carriers consist almost entirely of cuts and caps to existing RLEC support mechanisms, while the adoption of a CAF mechanism for these carriers was put off to a later date. Moreover, many of the proposals in the FNPRM appear to be primarily aimed at making further reductions in the support available for RLECs’ investment in broadband-capable networks rather than enabling the further deployment and upgrades necessary to provide “reasonably comparable” service in these areas.

Indeed, the cuts and caps to the existing high-cost support mechanisms, coupled with RLECs’ trepidation regarding the proposals in the FNPRM, have already begun to have a chilling effect on rural network investment, which will have both short- and long-term effects on what rural consumers can come to expect in terms of broadband

⁴ *Id.*, ¶1.

⁵ *Id.*, ¶¶125, 221, 286, 291.

availability. For example, Rural Telephone Service Company, an RLEC providing broadband services in a sparsely populated portion of western Kansas, states that “[b]ecause of the uncertainty presented by the Commission’s decision in the USF/ICC Order and FNPRM, RTSC has already decided to cut its capital budget by \$6 million for 2012, and will likely move towards a zero dollar capital budget in 2013 and beyond.”⁶ This is an unfortunate but perfectly understandable response to the Order and FNPRM because, as the Alaska Rural Coalition states, “[i]n the wake of the *CAF Order*, virtually nothing about high cost support is specific or predictable, which impairs all rural carriers’ ability to make informed decisions about maintaining existing networks or investment in upgrading networks.”⁷ Thus, as TCA correctly observes, “[i]t is utterly unreasonable for the FCC to expect RoR LECs to continue to invest in broadband infrastructure in the face of significant caps and cuts to their current support mechanisms – and with no certainty of how any investments may be recovered in the future.”⁸

As the Rural Associations have previously noted, existing high-cost support levels have enabled most RLECs to deploy at least basic levels of broadband service to a substantial majority of the consumers living in their territories. However, for the majority of RLECs, significant additional investment is necessary to meet the public interest obligations for broadband adopted in the Order, including the 4Mbps downstream and 1Mbps upstream speed benchmark. It follows that if today’s support levels are

⁶ Rural Telephone Service Company (RTSC), p. 5.

⁷ Alaska Rural Coalition (ARC), p. 4; *See also*, Washington Independent Telecommunications Association, Oregon Telecommunications Association, Idaho Telecom Alliance, Montana Telecommunications Alliance, Colorado Telecommunications Alliance (Western Associations), p. 11.

⁸ TCA, Inc. (TCA), p. 3.

already insufficient for most carriers to provide broadband service that meets the Order's speed benchmark and other performance metrics in outlying rural areas, then certainly cutting that support will make it nearly impossible.⁹ As a result, the Act's requirement of "reasonably comparable" advanced services will remain unfulfilled in most RLEC service areas.

The Rural Associations recognize that the High-Cost program is not an unlimited resource. Still, as USTelecom correctly points out, "ensuring the sufficiency of universal service support is a direct statutory command, [but] the *Order* is devoid of any analysis that legacy universal service amounts would represent sufficient funding to support the Commission's broadband deployment mandate and allow a carrier to meet its existing ETC obligations."¹⁰ As it stands, instead of providing RoR carriers with sufficient support to meet the Commission's universal broadband goals, the Order and FNPRM operate together to create a rural/rural divide that will leave large numbers of consumers in RLEC areas behind.¹¹ The availability and affordability of broadband services for one group of rural consumers should not come at the cost of leaving others in broadband

⁹ See, RTSC, p. 6 (stating that, "if current levels of USF support have not been sufficient to ensure broadband service is available to all Americans, then cutting that support will certainly not enable RoR carriers to further expand broadband services."). It should be noted that while the Order maintains high-cost support for RoR carriers at approximately its current level of \$2 billion annually, that amount must now also accommodate CAF support for ICC replacement. As a result, RLECs' combined revenues from high-cost support and ICC will actually be decreasing, significantly in some cases.

¹⁰ United States Telecom Association (USTelecom), p. 4.

¹¹ This is due to the Order's adoption of an increase in high-cost support funds for price cap carrier service areas, paired with nothing but cuts and caps in support for RoR areas. This amounts to a "leapfrogging" approach to broadband deployment that punishes RLECs for their previous broadband deployment successes. As a result, broadband in RLEC service areas is likely to become increasingly unaffordable and surpassed in speed and quality by even the broadband offered in non-RLEC rural areas, let alone urban centers.

backwaters where services will increasingly become “unreasonably incomparable” as a result of insufficient and unpredictable support.

As long as maintaining an arbitrary fixed \$2 billion annual budget target for RoR carriers continues to be the Commission’s primary focus with respect to these areas, “reasonably comparable” broadband will remain unavailable in most RLEC territories, and in fact, the chasm that already exists between RLEC areas and urban centers will only grow larger.¹² The record in this proceeding should cause the Commission to adopt a CAF for RoR carriers that is sufficient and predictable, and up to the task of making available robust and reasonably comparable broadband services to rural consumers in RLEC service areas.¹³

B. The Commission Should Adopt the RLEC Plan as the CAF Mechanism for RoR Carriers, As It Meets the Act’s Mandate for Sufficient and Predictable Universal Service Support

As noted above, the “reforms” made to the existing high-cost support mechanisms for RoR carriers threaten to create another rural/rural divide, and should give the Commission pause as it considers its next steps in this proceeding. By adopting the

¹² This is because, as noted above, the \$2 billion annual budget for RoR carrier service areas must now accommodate ICC replacement. However, due to the fact that this budget is a fixed amount, and RLECs’ ICC rates will decrease each year pursuant to the Order, the difference between RLECs’ cost recovery needs and their regulated revenues will grow each year. This year-over-year decrease in revenues will only exacerbate RLECs’ challenges in meeting the Order’s public interest obligations, including the 4/1 Mbps broadband speed benchmark, and will cause the quality of broadband services in rural service areas to fall farther behind. This approach to reform that places primary, if not exclusive, importance on budget management, without reference to or examination of whether reform enables “reasonably comparable” services and rates, is a far cry and a substantial departure from the goals of the 1996 Act or this Commission’s own access charge reform objectives as articulated in the wake of that landmark statute.

¹³ See, Moss Adams *et al.* (Moss Adams Companies), p. 24 (stating that, “the FCC must ensure that an artificial cap on the overall size of the fund does not preclude rural consumers from receiving the benefits of universal service for both voice and broadband services.”).

RLEC Plan for USF and ICC reform, the Commission can establish a reasonable and well-defined CAF mechanism that provides sufficient and predictable support for the provision of broadband service in RLEC areas.

To begin with, the RLEC Plan's modest USF budget target of just over \$2 billion beginning in 2012, and increasing to \$2.3 billion for USF and initial access replacement by 2017 (together with continuing receipt of ICC revenues during and after that time), would better enable RLECs to preserve and advance broadband availability in their service areas, at least consistent with historical operations. While this budget target was arrived at through difficult compromises with price cap carrier interests,¹⁴ and will require a number of hard choices for RLECs,¹⁵ it could still do much more than the Order and the FNPRM proposals to enable incremental broadband service deployment and upgrades in rural service areas.

In addition, the RLEC Plan properly avoids retroactively-applied constraints on cost recovery, such as the regression analysis-based caps on capital and operating costs adopted in the Order. Commenters recognize that these types of caps and constraints should be avoided for a number of legal and policy reasons.¹⁶ For example, the Blooston

¹⁴ See, Consensus Framework.

¹⁵ For instance, it is unlikely that the budget target for RoR service areas proposed in the Consensus Framework would, in most areas, allow for the availability of 4/1 Mbps broadband service to all customers in the near term. Such service would still need to be made available only upon "reasonable request," which presumably would include an assessment of the business case (including sufficient and predictable availability of USF support) to enable delivery of service to that specific customer – meaning that in many (if not most or nearly all) cases, the request may not be reasonable.

¹⁶ Carriers for Progress in Rural America (CPRA), p. 4; Blue Valley Telecommunications, Inc. (Blue Valley), p. 2; Alexicon Telecommunications Consulting (Alexicon), pp. 12-13; Blooston Rural Broadband Carriers (Blooston), p. 4; Copper Valley Telephone Cooperative, Inc. (Copper Valley), p. 8.

Rural Carriers explain that the retroactive application of the regression-based caps “is not predictable as required by statute, and it contravenes well-settled principles of agency law and precedent.”¹⁷ In addition, RLECs invested in their networks under the rules that existed at the time, which provided reasonably predictable cost recovery for capital expenditures in “multiple use” facilities. In other words, “RoR LECs have simply done what the FCC has encouraged through its policies for more than a decade.”¹⁸ The Rural Associations do not dispute the need for reasonable constraints on RLECs’ capital expenditures and, in fact, the RLEC Plan includes such a mechanism.¹⁹ However, that mechanism is applied to capital expenditures on a going-forward basis only, so as not to penalize RLECs and their customers for investments already “in the ground” that were made in reliance on rules in existence at the time.

The RLEC Plan also promotes broadband adoption in RLEC service areas by tying an individual carrier’s interstate cost allocation to its broadband take rate.²⁰ Furthermore, the RLEC Plan’s broadband urban wholesale cost benchmark for determining support will provide RLECs with the incentive to be more efficient in their retail operations.²¹ Finally, the Transitional Stability Plan (TSP) component of the RLEC Plan would achieve the Commission’s objective of avoiding “flash-cuts” to reduced

¹⁷ Blooston, p. 4.

¹⁸ TCA, p. 6.

¹⁹ Rural Associations’ April 18, 2011 Comments, pp. 8-12 & Appendix A.

²⁰ GVNW Consulting, Inc. (GVNW), p. 7. In other words, the higher a broadband adoption rate that a carrier can achieve, the greater the percentage of loop-related costs that will be gradually allocated to the interstate jurisdiction and thus eligible for recovery from the CAF.

²¹ This is due to the fact that carriers will know that any excessive retail costs will require the customer, rather than the CAF, to be responsible for those costs, which may potentially deter adoption or preclude sufficient cost recovery.

support levels that some RLECs will face under the plan, while having no impact whatsoever on the High-Cost program's budget.²² For these, and the numerous other reasons articulated by the Rural Associations in prior comments, the RLEC Plan presents the Commission with an efficient, reasonable, and easily implementable CAF mechanism for RoR carriers and should be adopted immediately.²³

The Commission should also strongly consider that a number of commenters support making middle mile costs eligible for cost recovery through the High-Cost program, which is a key component of the RLEC Plan.²⁴ As the Western Associations explain, “[f]or many carriers serving rural service areas and deploying broadband service in those rural service areas, middle mile and access to Internet backbone costs are significant components of providing broadband service.”²⁵ Also, like the Rural Associations, NASUCA recognizes that increased end-user demand for broadband may require RLECs to purchase additional, costlier middle mile capacity to meet that

²² This is because the TSP is funded entirely from the incremental support received by other RoR carriers specifically as a result of reform.

²³ Should the Commission decline to adopt the RLEC Plan, it should at the very least adopt three discreet support elements that will go a long way towards making reasonably comparable broadband services available in RLEC service areas. First, the Commission should ensure that high-cost support is available for the provision of “naked DSL” and other standalone broadband services. Second, the Commission should provide support for RLECs’ costs of access to middle mile facilities. And third, the FCC should create a mechanism for supporting IP-enabled local switching facilities. *See*, NECA, NTCA, OPASTCO, and WTA, WC Docket No. 10-90, *et al.* (filed January 18, 2012) (Rural Associations, pp. 22-28).

²⁴ Moss Adams Companies, pp. 21-22; The National Association of State Utility Consumer Advocates, the Maine Office of the Public Advocate, the New Jersey Division of Rate Counsel, and the Utility Reform Network (Consumer Advocates), pp. 27-28; Western Associations, pp. 11-12; Nebraska Rural Independent Companies (NRIC), p. 81; USTelecom, pp. 5-6.

²⁵ Western Associations, p. 11.

demand.²⁶ But, if an RLEC cannot afford to pay for the necessary additional capacity, the lack of adequate middle mile facilities will “undermine the investment made in robust last mile and second mile plant”²⁷ and “degrade[] overall broadband functionality.”²⁸ Thus, support for middle mile costs is vital to RLECs’ ability to meet the Order’s broadband speed benchmark and other related performance metrics.

Finally, despite the erroneous claim to the contrary,²⁹ the RLEC Plan represents a well-defined and easily implementable path to surgical reform of the existing High-Cost program for RLECs. The RLEC Plan was first explained, in detail, in the Rural Associations’ April 18, 2011 comments in this proceeding.³⁰ It was later followed up with a comprehensive and implementable set of draft rules, upon which the Commission is now seeking comment in the FNPRM.³¹ Also, in several *ex parte* presentations, the Rural Associations filed a significant amount of supplemental data to assist in an evaluation of the RLEC Plan’s overall budgetary impact.³² In short, the RLEC Plan

²⁶ Consumer Advocates, pp. 27-28.

²⁷ USTelecom, p. 6.

²⁸ NRIC, p. 81.

²⁹ Consumer Advocates, p. 21 (stating that they see the RLEC Plan as “more of a ‘Rube Goldberg’ contraption rather than a comprehensive plan.”).

³⁰ Rural Associations’ April 18, 2011 Comments. Certain aspects of the RLEC Plan were subsequently modified by the July 29, 2011 Consensus Framework letter.

³¹ Order & FNPRM, ¶1032, Appendix G.

³² Rural Associations’ *ex parte*, WC Docket No. 10-90, *et al.* (filed August 29, 2011); Rural Associations’ *ex parte*, WC Docket No. 10-90, *et al.* (filed September 9, 2011); Rural Associations’ *ex parte*, WC Docket No. 10-90, *et al.* (filed September 12, 2011); Rural Associations’ *ex parte*, WC Docket No. 10-90, *et al.* (filed September 22, 2011). To be clear yet again, the budget targets for the RLEC Plan presume no further mandated reductions in ICC rates beyond those adopted in the Order. Put another way, these approximate budget targets capture only USF and ICC restructuring for certain terminating rate elements, and they presume that RLECs will separately continue to receive full ICC revenues for network use in the case of other rate elements, such as

stands alone in the record as the only complete and implementable proposal for a CAF for RoR service areas. By adopting the RLEC Plan expeditiously, the Commission will be able to meet the universal service mandates of the Act while remaining mindful of the support burdens imposed on ratepayers nationwide that fund the USF.³³

C. To the Extent That Savings Are Realized From Other Components of the Connect America Fund, Those Funds Should Be Directed to the RLEC High-Cost Program/CAF

The Commission should reject calls to prevent savings realized from other components of the CAF from being used to support RLEC service areas.³⁴ First, the assertion that broadband speeds in RoR service areas are commonly at speeds in excess of 4/1 Mbps is simply untrue.³⁵ As the Rural Associations have repeatedly stated, substantial additional investment is required to ensure that broadband services meeting

originating access and transport, that are not affected by the immediate transition path specified in the Order.

³³ Consumer Advocates suggests that the Commission seek a recommendation from the Federal-State Joint Board on Separations as part of evaluating the RLEC Plan. Separations reform will require the Commission to consider changes to Parts 36, 51, 64, and 69 of its rules. Such an undertaking will delay the adoption of a CAF for RoR carriers. This will exacerbate the uncertainty that RLECs face and discourage further investment in broadband, to the detriment of rural consumers. A better approach would be to expeditiously adopt a CAF for these carriers and provide them with clarity as to the process and a timetable under which they will begin to receive explicit support for investments in broadband facilities. At that point, the Commission can determine which separations rule changes, if any, are necessary.

³⁴ Windstream Communications, Inc. (Windstream), pp. 36-38; United States Cellular Corporation (US Cellular), p. 52; C Spire Wireless (C Spire), pp. 29-30. The comments of Windstream are particularly puzzling, considering that it was a signatory to the July 29, 2011 Consensus Framework letter. Pursuant to that industry negotiated framework, Verizon and AT&T agreed to defer funding from their study areas for up to two years, if necessary, in order to accommodate the \$50 million per year in incremental funding for RoR carriers that is needed to accommodate ICC rate reform. The Consensus Framework letter specifically states that this incremental funding for RoR carriers would not be available to other providers.

³⁵ Windstream, pp. 36-37.

the Order's broadband speed benchmark and other performance metrics are available throughout RLEC service areas.³⁶ Also, the claims that state-of-the-art broadband networks are available in these areas because the existing system promotes inefficient investment by RoR carriers³⁷ is similarly misplaced. It is true that *some* RLECs have invested in fiber-to-the-home facilities in certain exchanges. These investments may well prove to be reasonable, prudent, efficient, and economical in the long-term due to the durability and scalability of fiber, the age and condition of the copper networks they replaced, and the topography of the nodes that might otherwise have been needed. Still, the typical RLEC network has employed incremental extensions of the fiber trunk portions of its hybrid fiber-copper Digital Subscriber Line (DSL) facilities to bring higher broadband speeds to more and more of its rural customers. The real world in which RLECs must operate is one of limited access to capital (with the Rural Utilities Service as a primary lender, and virtually no access to national and regional banks or stock markets), two-year lags in the recovery of many costs and expenses, and limited revenue potential from relatively small numbers of rural customers. Moreover, while rate of return regulation has no doubt encouraged prudent investment in broadband-capable facilities, it by no means guarantees cost recovery. Furthermore, RoR carriers still must recover a substantial portion of their costs from end users, no different than any other carrier. As a result, they have every incentive to operate as efficiently as possible, as excessive end-

³⁶ As of July 2010, approximately 70 percent of RLEC service areas did not have access to 4/1 Mbps broadband service. Comments of OPASTCO, NECA, NTCA, and WTA (the Rural Associations), WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337 (filed July 12, 2010), p. 7.

³⁷ Windstream, p. 37.

user rates would only discourage broadband adoption and force existing customers to purchase fewer services.

The Commission should also disregard comparisons made between the High-Cost program budget target for RoR territories and the Mobility Fund.³⁸ The Rural Associations agree that mobile wireless services are valuable to consumers and are supportive of the Commission's efforts to ensure that these services are widely available in rural areas. However, as the Rural Associations have previously stated, and the Commission itself has recognized,³⁹ fixed and mobile services are complementary, not substitutes, and the substantial majority of consumers nationwide want and purchase access to both. In addition, wireline carriers provide the high-capacity special access lines connecting many wireless towers with each other and with regional and national networks. Moreover, as the congestion problems encountered with increased iPhone and Android smartphone usage indicate,⁴⁰ wireline carriers transport high volumes of data and video traffic that would clog, or even cripple, wireless networks if they were required to carry it on their own facilities. Thus, over the long term, readily scalable fixed broadband networks are essential to providing broadband services – both fixed *and* mobile – to rural consumers, and sufficient support must be available to RLECs to make this a reality in rural service areas.

³⁸ US Cellular, p. 52; RCA-The Competitive Carriers Association (RCA), p. 8.

³⁹ For instance, the Order implicitly recognized that fixed and mobile services are not substitutes for each other when it defined an “unsubsidized competitor” as a facilities-based provider of residential *fixed* voice and broadband services, and declined to include mobile service providers as part of that definition. Order & FNPRM, ¶103.

⁴⁰ See, e.g., “Ahead of iPhone Release, Verizon Throttles Network Speeds” Wired.com (February 3, 2011), found at <http://wired.com/gadgetlab/2011/02/verizon-data-throttle> (visited February 15, 2012).

D. The Commission Should Reject Calls to Abandon Rate-of-Return Regulation and Cost-Based Support, as it Has Proven Highly Successful in Enabling Responsible but Widespread Broadband Deployment in RLEC Service Areas

A few wireless industry participants trot out a series of tired, poorly conceived proposals that would only place in jeopardy the continued provision of broadband services in RLEC territories. None presents any justification for abandoning the existing rate-of-return, cost-based system of high-cost support for RLECs that has proven highly successful in enabling almost all of these carriers to deploy at least basic levels of broadband to a substantial majority of their customers.

A couple of commenters propose that the Commission apply the same CAF mechanism to all ILECs.⁴¹ However, a “one-size-fits-all” CAF would fail to address the unique challenges that RLECs face in providing service in predominately high-cost rural areas that lack densely populated urban cores. Price cap carriers, on the other hand, are some of the nation’s largest carriers for whom high-cost rural areas are just a small portion of their total service areas. Still, incentive regulation, along with model-based support, has generally proven unsuccessful in providing price cap carriers with the necessary incentives to deploy broadband in their rural areas. It would therefore make little sense to apply such a system to RoR carriers and abandon a methodology that has a track record of tremendous success in encouraging efficient, incremental broadband investment in hard-to-serve, stand-alone rural areas.

In addition, the claims that RoR regulation somehow insulates RLECs from competitive pressures,⁴² or that a cost-based system provides no incentive to minimize

⁴¹ CTIA-The Wireless Association (CTIA), p. 16; T-Mobile USA, Inc. (T-Mobile), p. 8.

⁴² T-Mobile, p. 8.

costs and provides RLECs with more than sufficient support,⁴³ are similarly off base. These tiresome old canards about a wasteful and inefficient RLEC industry remain unsupported by substantive real world evidence, much less enough examples to characterize the 700+ carrier RLEC industry. To begin with, RoR regulation has enabled RLECs to serve as COLRs, providing high-quality, affordable service throughout the entirety of their territories, including the more sparsely populated and higher-cost areas that other carriers have long declined to serve. Furthermore, the fact that RLECs have been able to make available at least basic levels of broadband service to the vast majority of their customers, while also fulfilling their COLR obligations, demonstrates the effectiveness of the existing RLEC mechanisms.⁴⁴ Moreover, as noted above, RLECs still must recover a substantial portion of their costs from their end users, like any other carrier. As a result, this provides RLECs with a strong incentive to operate as efficiently as possible, and provide the highest quality services possible, as high end-user rates and/or poor service quality would only discourage broadband adoption and/or drive customers to reduce their existing service. Jettisoning a cost-based recovery mechanism altogether at this point would threaten the past progress of RLECs in deploying broadband by depriving them of revenue flows that are essential to pay for and maintain their existing networks, not to mention to invest in further broadband and other service quality upgrades. Finally, RLECs' costs, on which their high-cost support is based, are

⁴³ C-Spire, p. 34.

⁴⁴ As the Federal-State Joint Board on Universal Service stated in 2007, "under existing support mechanisms, RLECs have done a commendable job of providing voice and broadband services to their subscribers." *High-Cost Universal Service Support*, WC Docket No. 05-337, *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, 22 FCC Rcd 20477, 20487, ¶39 (released November 20, 2007) (Joint Board 2007 Recommend Decision).

subject to multiple layers of review. This provides significant assurance that these carriers receive no more than “sufficient” support and that it is used for its intended purposes.

The Rural Associations do not discount the need for reform of certain aspects of the High-Cost program for RoR carriers. However, that reform should build, in a surgical manner, upon the success of the existing system for RLECs, refining the mechanism in a way that enables carriers to continue to serve as COLRs, as well as maintain and incrementally improve upon their provision of broadband services. This is precisely what the RLEC Plan would accomplish, and it should therefore be adopted expeditiously.

III. THE RECORD IN THIS PROCEEDING IS INSUFFICIENT TO SUPPORT PRESCRIPTION OF A NEW INTERSTATE RATE OF RETURN; CONSEQUENTLY, THE EXISTING RATE MUST REMAIN IN PLACE PENDING A FULL HEARING ON THE MERITS

The Rural Associations explained in their initial comments that the Commission’s approach in this proceeding to represcribing the authorized interstate rate of return is fundamentally flawed.⁴⁵ First, as the Commission itself has previously determined, traditional methods for represcribing the rate of return based on national interest rate trends and large company data are inadequate for determining RLEC costs of capital.⁴⁶ Yet the Commission appears intent on using those same methods (or other, unspecified methods) to represcribe the authorized rate of return for RLECs without even acknowledging, let alone resolving, those concerns.

⁴⁵ Rural Associations, pp. 47-63. *See also*, Petition for Reconsideration and Clarification of NECA, OPASTCO, and WTA, WC Docket No. 10-90, *et al.* (filed December 29, 2011) (NECA, OPASTCO, WTA Petition).

⁴⁶ NECA, OPASTCO, WTA Petition, pp. 26-27; Rural Associations, p. 48.

Second, a rate-of-return represcription depends heavily on specific facts relating to capital costs. Section 205(a) of the Act, as well as the Administrative Procedure Act (APA), accordingly require that parties be given a full and fair opportunity to present and respond to evidentiary showings.⁴⁷ Instead of conducting a fact-based hearing, the Commission simply asks general policy questions about the represcription process in its FNPRM and tentatively concludes (based on a brief review of national interest rates and information relating to, of all companies, AT&T and Verizon) that the rate of return for RLECs should be reduced to a level of no more than nine percent. The FNPRM then asks parties to “comment” on these findings.⁴⁸ Interested parties are expected to provide such comments in the same proceeding, and at the same time, that comments and replies are due regarding dozens of proposed changes to existing high-cost USF and ICC rules, all of which have the potential to profoundly affect RLEC business operations and therefore RLECs’ costs of obtaining capital.⁴⁹

⁴⁷ The Rural Associations do not expect the Commission to return to the traditional, full-scale trial-type procedures previously used to prescribe the rate of return, but at the same time a process more rigorous than a simple comment and reply proceeding is required. *AT&T v. FCC*, 449 F.2d 439, 451. (2nd Cir. 1971). *See also National Association of Motor Bus Owners v. FCC*, 460 F.2d 561, 563-64 (2nd Cir. 1972); *AT&T v. FCC*, 487 F.2d 865, 874 (2nd Cir. 1973); *AT&T v. FCC*, 836 F.2d 1386, 1393 (D.C. Cir. 1988) (Starr, J. concurring). The Commission has previously recognized rate-of-return represcription proceedings are adversarial in nature and, as a result, refused to eliminate its paper hearing rules in favor of simple notice and comment rulemaking. *Amendment of Parts 65 and 69 of the Commission’s Rules to Reform the Interstate Rate of Return Represcription and Enforcement Processes*, Report & Order, 10 FCC Rcd 6788, at ¶¶51 et seq. (1995).

⁴⁸ Order & FNPRM, ¶1057.

⁴⁹ *See, e.g., Western Associations*, p. 14.

Other commenters agree the Commission's overall approach to the represcription process is wrong.⁵⁰ As USTelecom points out:

The Commission should not try to have its cake and eat it too – a lower rate of return and a less than thorough represcription proceeding. Certainly elements of the process the Commission has historically used that have been overtaken by technology such as the paper submissions can be dispensed with and the proceeding should be conducted as quickly as possible consistent with a fair process. But the essential elements of a rate of return proceeding must be fully explored in order for the Commission to fulfill its oft-stated goal of data-driven decision making. Moreover, the Commission must first adopt new substantive rules governing the represcription process before it begins a proceeding to determine a reasonable rate-of-return.⁵¹

In light of these procedural flaws it comes as no surprise that the record gathered in response to the FNPRM is inadequate.⁵² Most parties favoring a reduction in the authorized rate of return provide *no evidence whatsoever* in support of their claims – they simply echo the Commission's own unsupported assumptions regarding reductions in RLECs' cost of capital, or express bald opinions to the effect that the rate of return "should be as low as possible."⁵³

⁵⁰ GVNW, p. 9. *See also* Parish, Blessing & Associates (PBA), p. 13. Other parties object to the Commission's conduct of a proceeding where it appears to have predetermined the rate of return. Moss Adams Companies, pp. 24-26.

⁵¹ USTelecom, p. 17.

⁵² Rates may not be prescribed unless the agency has an adequate record, and any finding of fact supporting a rate represcription must be supported by substantial evidence. *AT&T Co. v. FCC*, 572 F.2d at 23. "When important decisions turn on the particular weight to be attributed to certain facts, the Commission may have a duty to probe beyond 'canned' writings or to allow the parties to illuminate the issues through exposure to questioning designed to separate inferences from hard data and ventilate interpretative assumptions." *Rhode Island Consumers' Council v. FPC*, 504 F.2d 203, 210 (D.C. Cir. 1974).

⁵³ *E.g.*, Time Warner Cable, Inc. (TWC), p. 12; RCA, pp. 9-10. CTIA suggests "using public data" to validate cutting the rate of return to 7 percent. CTIA, p. 16. C Spire merely opines the rate of return "should be below 9 percent." C Spire, pp. 31-32.

The Rural Associations, in contrast, provided extensive analyses and factual information demonstrating the opposite of what the Commission and many parties simply assume to be true. Included in the Rural Associations' initial comments were a paper from Prof. Barbara Cherry of Indiana University, and Prof. Steven Wildman of Michigan State University, emphasizing that the FCC must consider overall universal service policy directions and the impact of regulatory and marketplace changes in rate represetations. Professors Cherry and Wildman also documented the extent to which increased competition and the threat of reductions in support levels increase costs of capital for RLECs.⁵⁴ Their analyses demonstrate in no uncertain terms that the Commission should err on the high side, not the low side, in establishing any new rate of return for RLECs.⁵⁵ Commenters also point out small carriers today face greater risks than larger carriers, justifying a higher rate of return to attract investors.⁵⁶

The Rural Associations also provided an extensive economic analysis by Prof. Randall Billingsley of Wake Forest University, examining capital costs for a portfolio of firms specifically selected to provide an overall risk profile comparable to RLECs.⁵⁷ Professor Billingsley's analysis showed that a reasonable forward-looking estimate of RLECs' cost of capital, given *today's* marketplace and regulatory environment, is significantly higher than the Commission's incomplete analysis of AT&T's and

⁵⁴ Rural Associations, Appendix B, pp. 8-9.

⁵⁵ *Id.*, Appendix B, pp. 4, 8-11.

⁵⁶ USTelecom, p. 18 (stating that the "remaining universe of small companies is smaller, more rural, higher cost and thus riskier than ten years ago"); Consumer Advocates, p. 34 ("due to the changes in the industry, it is no longer reasonable to use the risk associated with the large carriers, such as AT&T and Verizon, to estimate the cost of equity for the rate-of-return carriers"); Alaska Regulatory Commission (AK Commission), pp. 10-11; Western Associations, pp. 14-15; GVNW, p. 4; PBA, p. 13.

⁵⁷ Rural Associations, Appendix C.

Verizon's data would otherwise indicate. Based on companies selected on the basis of comparable risk factors, Professor Billingsley concluded the current cost of equity capital for the average RLEC is 13.35 percent.⁵⁸ The Rural Associations also described an alternative methodology using RLEC acquisition data that would, if adopted, justify a weighted average cost of capital (WACC) for RLECs of at least 11.75 percent. In light of these findings, the existing authorized rate of return of 11.25 percent appears, if anything, to be conservative, not excessive.

The only commenter attempting to provide a factual basis for lowering the authorized rate of return was the Ad Hoc Telecommunications Users Committee (Ad Hoc). Specifically, Ad Hoc used publicly available data maintained by Professor Aswath Damodaran of New York University to calculate a WACC for 28 telephone companies in the "telecom utility" sector of Prof. Damodaran's compilation and a somewhat higher WACC for 85 large telecommunications companies in the "telecom services" sector.⁵⁹

The Commission should disregard Ad Hoc's analysis for several reasons. As an initial matter, neither the "telecom utility" nor the "telecom services" companies in the NYU data base are remotely representative of RLECs. For example, many are primarily international companies.⁶⁰ Others are highly diversified entities that do not derive their

⁵⁸ *Id.*, p. 8.

⁵⁹ Ad Hoc, pp. 4-5. Companies are divvied up according to Standard Industrial Classification (SIC) codes, industry codes meant to capture industry sectors as determined by the US Department of Labor. *See* http://www.osha.gov/pls/imis/sic_manual.html. Data cited in Ad Hoc comments is from 2011.

⁶⁰ *E.g.*, Telekom, BCE Inc, Telefonica, Telefonos de Mexico, and Manitoba Telecom Services, America Movil, Cellcom Israel Ltd, Telecom New Zealand, China Mobile, Hong Kong Ltd, and Singapore Telecommunications. The D.C. Circuit has held a regulatory agency (FERC) must explain why each entity included on a list of companies with similar risks to the party whose rate of return is being prescribed has similar risks

primary revenues from the provision of local telephone service in rural areas.⁶¹ The analysis provided by the Rural Associations – which targets comparable companies on the basis of shared risk factors – is much more appropriate for determining the rate of return required to attract investors to RLECs.⁶² The Rural Associations also pointed out in their initial comments⁶³ that a risk premium must be included in any cost of capital analysis for RLECs, to account for the additional risks posed by small capitalization. Ad Hoc’s all-purpose computations, performed on randomly selected data, fail to take this factor into account.⁶⁴

Recognizing that Ad Hoc’s purported analysis may have superficial appeal, the Rural Associations asked Prof. Billingsley to evaluate Ad Hoc’s analysis of the NYU data. Professor Billingsley’s rebuttal statement, attached to these comments as Appendix A, demonstrates in detail that Ad Hoc’s analysis produces an unrealistically low cost of capital estimate for RLECs and should not be relied upon in this proceeding.⁶⁵

and the agency must also explain why any entity not included on such a list has dissimilar risks. *Petal Gas Storage, L.L.C. v. FERC*, 496 F.3d 695 (D.C. Cir. 2007).

⁶¹ Based on a review of available 10K filings, for example, it appears Alaska Communications Systems Group, one of the supposedly representative companies, owns two state-of-the-art undersea fiber optic cable systems and a wireless network covering 85 percent of Alaska’s population. ERF Wireless provides secure broadband wireless and other broadband products to banking and commercial clients, as well as the oil and gas industry both nationally and internationally. IDT is a multinational holding company with substantial interests in energy companies. XO has approximately one million miles of metro fiber and more than 90,000 customers including government agencies, telecommunications carriers and Internet providers. Globalstar is a worldwide provider of mobile voice and data services via satellite, and Hughes among other things sells broadband equipment.

⁶² Rural Associations, pp. 50, 57-61.

⁶³ Rural Associations, Appendix C, p. 7.

⁶⁴ Appendix A, pp. 12-13.

⁶⁵ *Id.*, p. 4.

For example, Professor Billingsley points out that, in addition to Ad Hoc's use of data from telecommunications companies that are not comparable in risk to the average RLEC, Ad Hoc fails to apply an adjustment (such as that used in the Capital Asset Pricing Model or CAPM) to account for the empirically supported effect of small firm size on the cost of equity capital. This leads Ad Hoc to underestimate cost of capital.⁶⁶ Ad Hoc's analysis also incorrectly relies on only one methodology for estimating the cost of capital, rather than presenting a more balanced view incorporating several methods.

One of the most striking differences between Prof. Damodaran's "telecom utility" sector and the typical RLEC, as noted by Prof. Billingsley, is the "telecom utility" sector's vast amount of diversification. This demonstrates the lack of comparability between Ad Hoc's sample and the average RLEC and produces an unreliable, underestimated cost of capital.

Prof. Billingsley also points out that Ad Hoc's reliance on Prof. Damodaran's data is inconsistent with the data's intended use. As Prof. Damodaran himself states, "this data ends up in the legal arena more often than it should . . . [it] was never meant for public policy debates."⁶⁷ Finally, Prof. Billingsley notes, Ad Hoc relies on data that is about one-year old, and is backward- rather than appropriately forward-looking.⁶⁸ For all these reasons, Professor Billingsley finds Ad Hoc's recommended reliance on cost of capital data obtained from Prof. Damodaran's web site to be "arbitrary, backward-looking, economically misleading, and explicitly inconsistent with the stated intended use

⁶⁶ *Id.*, pp. 7-13.

⁶⁷ *Id.*, p. 16.

⁶⁸ *Id.*, p. 19.

of the data.”⁶⁹ Ad Hoc’s recommendation that the Commission decrease the authorized interstate rate of return below its current level of 11.25 percent is therefore “not supported by reliable evidence.”⁷⁰

The evidentiary showings presented by the Rural Associations make clear the current authorized rate of return reasonably represents the cost of capital for RLECs. Inasmuch as the record compiled in this proceeding provides no *factual* basis for the Commission to change the current authorized rate of return,⁷¹ it should be left in place pending development of new rules or procedures governing cost of capital determinations for small rural telephone companies and pending the outcome of a full evidentiary hearing on the merits.

IV. COMMENTS FILED IN THIS PROCEEDING DEMONSTRATE IT WOULD BE ARBITRARY AND CAPRICIOUS FOR THE COMMISSION TO USE ITS PROPOSED REGRESSION MODELS TO LIMIT REIMBURSEMENTS FOR CAPITAL AND OPERATING COSTS

The record makes plain that the Commission should reconsider its premature decision to employ quantile regression methods to limit reimbursements of capital and operating costs.⁷² In comments, the Rural Associations presented detailed analyses, including a paper by Dr. Roger Koenker (whom the Commission itself has hailed as the

⁶⁹ *Id.*, p. 3.

⁷⁰ *Id.*, pp. 18-19.

⁷¹ The Rural Associations explained in detail that the burden of proof in a prescription proceeding rests solidly upon the party seeking a change. Rural Associations, pp. 61-63. Since only one party, Ad Hoc, even attempted to provide actual data supporting a change in the authorized rate of return, and since that data is unreliable for the reasons described above, the record provides no basis for changing the current authorized rate of return.

⁷² *E.g.*, Alexicon, pp. 10-17; GVNW, pp. 11-15; Moss Adams Companies, pp. 5-18; Western Associations, pp. 2-3; TCA, p. 2; ARC, p. 17; Blooston, p. 4; Section E Rural Carriers, p. 2; Hopi Telecom, p. 6; RTSC, p. 11; Central Texas Telephone Cooperative, Inc. (Central Texas), pp. 2-16; Accipiter Communications Inc. (Accipiter), pp. 15-16; Blue Valley, p. 3.

father of quantile regression analysis) demonstrating that the Commission's use of quantile regression analyses will lead to serious distortions in support if applied to HCLS or other high-cost support calculations.⁷³

The Rural Associations further showed the proposed models include technical errors that will cause them to limit reimbursement of capital and operating costs in an arbitrary and capricious manner. These errors include use of inaccurate geographical mapping data,⁷⁴ application of statistical estimates in a way that fails to exclude only excessive costs,⁷⁵ failure to properly identify capital and operating costs,⁷⁶ irrational limits on individual account data,⁷⁷ and use of independent variables in a manner that introduces unacceptable arbitrariness.⁷⁸

The Commission's models drew an avalanche of criticism from other parties detailing similar objections. Indeed, it is telling that not a single commenter filed in support of the Commission's proposed methodology.⁷⁹ Some comments focused on the

⁷³ Rural Associations, Appendix E.

⁷⁴ Rural Associations, pp. 65-66.

⁷⁵ *Id.*, pp. 66-67.

⁷⁶ *Id.*, pp. 67-68. The Rural Associations noted in this regard, for example, that the Commission's models target gross investment rather than capital expenditures, and incorrectly include depreciation expenses in operating expenses. *Id.*, p. 68.

⁷⁷ *Id.*, pp. 68-70.

⁷⁸ Moss Adams Companies, pp. 14-15; Calaveras Telephone Company, p. 7; Central Texas, pp. 6-7; Accipiter, p. 15. The Rural Associations further demonstrated in comments it was premature for the Commission to conclude that statistical limitation models should apply to interstate common line support (ICLS) given the extensive absence of methods, rationale, and impact assessments supporting such use. Rural Associations, pp. 72-73.

⁷⁹ TWC, p. 12 only asserts "As long as carriers receive regulatory assurances of a positive return, their asserted costs must be carefully scrutinized using the benchmark proposals reflected in the FNRPM, audit controls, and related mechanisms to prevent over-recovery."

unfairness (and unlawfulness) of applying the model retroactively to prior investments.⁸⁰

Several commenters also enumerated ways in which data used to develop and run the models do not adequately represent the true cost drivers of providing service in RLEC territories.⁸¹ Others demonstrated how the proposed use of a 90th percentile cut-off is arbitrary and would harm consumers living in areas where it is necessary, efficient, and perfectly reasonable for carriers to incur relatively high costs in order to provide service at all.⁸²

To assist the Commission in evaluating the significance of these concerns, the Rural Associations have conducted additional analyses of the Commissions' models that demonstrate the impacts of the various flaws identified in the comments. These analyses, attached as Appendix B to this Reply, should be considered in conjunction with the analyses provided in Appendix D of the Rural Associations' initial comments.

Specifically, the Rural Associations' further analyses show that the results produced by the Commission's models bear no rational relationship whatsoever to the Commission's stated goal of improving "efficiency" in high-cost support distributions.

⁸⁰ Western Associations, p. 9; TCA, p. 5; Alexicon, pp. 11-13; Copper Valley, p. 8; Blooston, p. 4; Central Texas, pp. 2-5; CPRA, p. 4; Blue Valley, p. 3.

⁸¹ GVNW, pp. 12-15; Moss Adams Companies, pp. 9-11; GVNW, p. 5; Calaveras, p. 6; Western Associations, pp. 3-7; Copper Valley, p. 8; Central Texas, pp. 2, 5-6; CPRA, pp. 6-8; Sacred Wind, pp. 1-2; Guadalupe Valley, p. 3; Blooston, p. 7; Section E Rural Carriers, pp. 5-7; NRIC, p. 15 (stating that "the record in this proceeding provides persuasive evidence that density is, in fact, an important cost driver, if not the most important one."). In addition, carriers report significant inaccuracies in the Commission's square miles data. Penasco Valley Telephone Cooperative, Inc. (Penasco), p. 2; InterBel Telephone Cooperative, Inc, p. 2. Also commenters noted that the model errs by not reflecting soil type or terrain. Penasco, p. 3; Scio Mutual Telephone Association, p. 3.

⁸² E.g., Alexicon, pp. 14-15; Moss Adams Companies, p. 11; Calaveras, p. 9; Central Texas, p. 8; Alexicon, pp. 14-15; NRIC, pp. 51-53.

To the contrary, the models appear intended simply to limit support amounts to an arbitrarily-selected percentile level, without any showing that costs above that amount were, in fact, inefficiently incurred. Appendix B also explains that the data used to develop and apply the models are substantially inaccurate, a point made previously by the Rural Associations and in numerous comments. As a way of testing the “robustness” of the models, however, the Associations undertook to correct one such error and to examine the effects of doing so on the models and resulting support distributions. The results of this analysis showed the models are anything but robust, in that the correction of one data point could affect not only support for the company with erroneous data but many other companies as well.

Appendix B also demonstrates in more detail a problem identified in the Rural Associations’ initial comments by Dr. Roger Koenker, on whose work the Commission partially based its selection of quantile regression models as a limitation mechanism. The analysis shows that the Commission’s use of multiple models to limit support actually imposes far more restrictive limits on expenditures than the Commission may have intended by its selection of a 90th percentile limit, affecting many more study areas than would be expected by a method designed to identify those specifically in the top 10 percent.⁸³

Finally, the further analyses set forth in Appendix B demonstrate that the limits imposed by the Commission’s regression models are not consistent with the Commission’s own accounting rules. This will cause support levels to change in unpredictable ways from year to year, undermining the Commission’s broadband service

⁸³ Appendix B, p. 5.

deployment objectives, and running counter to the statutory requirement for “predictable” support.⁸⁴

In sum, the record in this proceeding demonstrates conclusively and without contradiction that the Commission should not implement its proposed quantile regression models. Contrary to the Act’s requirements, the models are unpredictable, fail to provide sufficient support, will not promote investment, and will undermine the Commission’s own broadband universal service goals. Indeed, flaws identified by commenters are so dramatic that a court reviewing the record would likely consider implementation of the models to be a textbook example of arbitrary and capricious decision-making. The Rural Associations accordingly continue to recommend the Commission abandon plans to use its quantile regression models to constrain high-cost support for RLEC capital and operating costs. The Commission should rely instead on more reasonable and rational limitation approaches, such as the methods proposed in the RLEC Plan.

V. THE CURSORY DISCUSSION ON THE RECORD OF HOW TO IDENTIFY AND ADDRESS PURPORTED “UNSUBSIDIZED COMPETITION” IN RLEC STUDY AREAS PROVIDES NO CREDIBLE BASIS TO IMPLEMENT SUCH A MECHANISM

In multiple pleadings over the past year, the Rural Associations have taken the National Cable & Telecommunications Association (NCTA) up on a challenge that NCTA first identified in a November 2009 Petition for Rulemaking⁸⁵ – that is, how to identify study areas in which an “unsubsidized competitor” provides service in the area of

⁸⁴ TCA p. 5-6; Moss Adams Companies, pp. 7-8; NRIC expresses concern that the use of quantile regression methods will harm predictability. NRIC, pp. 33-37. Even the Nebraska Rural Independent Companies indicated they endorse the use of regression only where the application meets the standard of sufficient and predictable. NRIC, pp. 9-13.

⁸⁵ See, Petition for Rulemaking by National Cable & Telecommunications Association, RM-11584 (filed November 5, 2009) (NCTA Petition).

a supported ETC and how to potentially reduce the incumbent's high-cost support in those same areas. For much of the past year, the Rural Associations have endeavored to fully explore this issue in depth,⁸⁶ particularly the effect it would have on the availability of affordable, high-quality voice and broadband services to consumers in RLEC study areas. Despite the numerous public interest concerns that remain, a tiny cadre of cable representatives and a few like-minded allies continue to urge the Commission to move forward full speed ahead. These parties fail to provide any specific details whatsoever as to how their proposals would work, nor is there any discussion (or apparent concern) regarding the consequences of their suggestions on rural consumers.⁸⁷

By contrast, the overwhelming majority of commenters continue to highlight the substantial complications with attempting to identify purported "unsubsidized competition" in the first instance. They also raise significant concerns with implementing a system that would reduce support in areas of "competitive overlap" while somehow maintaining universal service and satisfying COLR obligations in outlying areas where competitors typically choose not to tread.⁸⁸ Given the lack of understanding,

⁸⁶ Rural Associations, pp. 75-91; Rural Associations' April 18, 2011 Comments, pp. 50-56.

⁸⁷ *See, e.g.*, TWC, p. 14 (urging the Commission to limit support for areas with less than 100 percent overlap, but providing no input whatsoever on the process for doing so); Coalition for Rational Universal Service and Intercarrier Reform (CRUSIR), p. 4 (stating that a partial competitive overlap rule would be "desirable" but providing no explanation of how to implement it); NCTA, p. 9 (devoting a single paragraph of three sentences to the process for implementing an "unsubsidized competition" mechanism in RLEC areas).

⁸⁸ Accipiter, pp. 8-15; Sacred Wind Communications (Sacred Wind), p. 2; Alexicon, pp. 6-9; Chickamauga Telephone Company, Clear Lake Independent Telephone Company, Granite State Telephone, Inc., Hill Country Telephone Cooperative, Inc., Lennon Telephone Company, Ligonier Telephone Company, New Paris Telephone, Inc., Nova Telephone Company, and Valley Telephone Company, LLC (Section D Carriers), pp. 2-8; Surewest Communications (Surewest), pp. 2-11; TCA, pp. 9-11. State commissions also express concern and/or urge caution regarding the "competitive overlap" concept in

recognition, and evidentiary showing by proponents with respect to how such a system would be implemented and affect consumers, the Commission should dismiss the notion of reducing or eliminating support in study areas with purported “competitive overlap” unless and until it has sorted through the following, in detail: (1) the precise means for current and regularly refreshed identification of *truly* “unsubsidized competition,” including the process by which such “unsubsidized competition” will be validated; (2) the process by which support might be reduced in areas affected by such validated “unsubsidized competition;” and (3) the impacts on rural consumers and the implications for COLR obligations upon which many rural end users depend.

A. There is no Credible or Reliable Central Source for Identifying the Presence of “Unsubsidized Competition”

1. *Universal Service is Far Too Important for Reduction of Support to Hinge Exclusively Upon Outdated, Incomplete, and Self-Reported Online Maps*

Universal service is a policy mandated by statute and, as a program, has worked well to ensure that rural Americans are connected by high-quality, affordable communications services. High-cost universal service support is therefore of such an essential nature that the Commission should take all reasonable steps to ensure that it is not wiped away on the basis of “false positives” that appear to indicate that an ETC no longer requires support (or needs less than it currently receives). To undertake the analysis sought by NCTA and its small band of allies, the Commission must proceed with

the FNPRM. *See, e.g.,* Regulatory Commission of Alaska (AK Commission), pp. 11-15; California Public Utilities Commission (CA PUC), pp. 2-5; Indiana Utility Regulatory Commission (IURC), pp. 3-4; Nebraska Public Service Commission (NE PSC), pp. 4-5; Vermont Public Service Board (VT PSB), pp. 4-5; Public Service Commission of Wisconsin (PSCW), pp. 10-11.

the utmost caution in identifying those areas where the “market” truly supports a self-sustaining business case for delivery of reasonably comparable services at reasonably comparable rates without any need for USF support.

Such review should not start by reference to online mapping tools as suggested by NCTA.⁸⁹ The maps that might be used for the purpose of “targeting” support to areas not served by “unsubsidized competitors” provide little, if any, meaningful guidance on the true nature of the underlying market. As an initial matter, even if the maps accurately depicted the reach of each provider (which they do not as explained in the Rural Associations’ initial comments and further below), those currently under consideration show only broadband competition. They do not show unsubsidized broadband competition. The mere presence of a competitor in a given census block does not lead to the conclusion that the census block supports a self-sustaining business case. The competitor may very well rely upon subsidies from other areas in which it operates to enable delivery of service in that area, including both internal cross-subsidies or even the receipt of explicit high-cost support in that area or other areas it serves.⁹⁰ Failing to isolate and take full account of these cross-subsidies presents substantial risk of cancelling out or reducing high-cost support in a market where it is in fact very much still needed upon more careful review.

Moreover, the maps show only broadband reach, and do not reflect whether: (a) the competitor in fact offers such broadband at reasonably comparable rates and without data caps or other service limitations; and (b) the competitor also offers voice service on

⁸⁹ NCTA, p. 9.

⁹⁰ See, ADTRAN, Inc. (ADTRAN), p. 19 (“Entry by such competitors, even if not subsidized by high-cost support, does not mean that subsidies are not needed to support broadband deployment in those areas.”).

a standalone basis at reasonably comparable rates.⁹¹ As the Commission has been very careful to note, an “unsubsidized competitor” is one that offers both residential fixed terrestrial voice and broadband services.⁹² There is no record basis to assume that the presence of a broadband competitor necessarily translates to a voice offering of reasonably comparable price – or to any voice offering at all. Indeed, the Wireless Internet Service Provider Association itself noted just several weeks ago that most of its members offer only fixed wireless broadband services, and do not provide VoIP or other voice services.⁹³ Thus, to carry out the mission of universal service, a more penetrating and discerning evaluation is required in lieu of checking to see what may be indicated by the National Broadband Map (NBM) or other mapping resources at any given point in time.

Furthermore, the NBM and other mapping resources such as Tele Atlas Wire Center Boundaries contain highly questionable data even as to broadband competition. As the Rural Associations showed in their initial comments, reference to Tele Atlas boundary data in connection with the potential use of a regression analysis resulted in

⁹¹ See, Order & FNPRM, ¶¶ 9-58 (defining performance goals that include, *inter alia*, preserving and advancing voice service, ensuring universal availability of voice and broadband, and ensuring reasonably comparable rates for broadband and voice services). It should also be noted that certain maps do not reflect 4/1 Mbps broadband service, which the Commission has defined as the new minimum speed benchmark for CAF recipients. See *id.* ¶ 94. Reducing or eliminating the support of a USF recipient due to the presence of a competitor that offers broadband service at speeds that are below the new national objective would lead to portions of rural America becoming “broadband backwaters.” The Commission should not reduce support for an existing support recipient unless and until it is demonstrated that someone else in that market offers broadband that at least meets the Order’s performance metrics for support recipients and at rates reasonably comparable to those charged in urban areas.

⁹² *Id.*, ¶103.

⁹³ Petition for Reconsideration, Wireless Internet Service Providers Association, WC Docket No. 10-90 *et al.* (filed December 29, 2011), p. 2.

significant errors in more than 90 percent of the study areas for which data are currently available.⁹⁴ The Commission's own staff noted the utter unreliability of the Tele Atlas data only a few months ago.⁹⁵ The limits of the NBM are also very real and readily apparent. Several studies have noted that reliance on self-reported provider data introduces a series of concerns, including that: (a) providers "often paint their coverage areas with a broad brush" and (b) the NBM merges business and residential services such that "while some areas may appear to have a plethora of service options, the majority of providers are targeting businesses, not private residences."⁹⁶ CenturyLink also presented compelling evidence with respect to the overstatement of competition by the NBM and the potential for many customers in partially served census blocks to be left behind if it is used as the primary resource for identifying "unsubsidized competition."⁹⁷

Finally, as a result of the massive process involved in gathering data, the NBM is consistently months behind in terms of tracking the exit, entry, extension, and retrenchment of broadband providers. It is unclear how or whether the NBM will continue to be updated after the next few years because of funding concerns. This means that any system the Commission designs around identifying competition in reliance on

⁹⁴ Rural Associations, Appendix D, pp. 2-7. *See also*, Accipiter, p. 14 (noting the inaccuracies in the Tele Atlas Wire Center Boundaries depiction of Accipiter's study area.).

⁹⁵ Letter from Jennifer Prime, Legal Counsel, Wireline Competition Bureau, to Marlene H. Dortch, FCC, WC Docket No. 10-90, *et al.* (filed Oct. 19, 2011), Appendix II, p. 6 (citations omitted).

⁹⁶ Tony H. Grubestic, *The U.S. National Broadband Map: Data Limitations and Implications*, Geographic Information Systems and Spatial Analysis Laboratory, College of Information Science and Technology, Drexel Univ. (2011) (quoting Benjamin Lennett and Sascha Menirath, *Map to Nowhere*, Slate (May 2011)).

⁹⁷ *See, Ex Parte* Letter from Jeffrey S. Lanning, Assistant Vice President-Federal Regulatory Affairs, CenturyLink, to Marlene H. Dortch, Secretary, FCC (filed January 27, 2012) (CenturyLink Letter).

the NBM could lock in conditions that exist at a particular moment in time, rather than reflecting the real economics of rural markets and the then-current status of broadband availability.

As noted above, the small band of “unsubsidized competition” concept proponents provide neither meaningful discussion of these significant concerns nor any suggestions on how to remedy them. Instead, they have adopted a brazen “damn the torpedoes” approach and urge the Commission to find the quickest, simplest resource available to identify some indicator of broadband competition, and to rely upon that exclusively to eliminate or reduce high-cost support for ETC recipients.⁹⁸ Rural consumers and the core principles of universal service would be far better served by a more thoughtful and systematic approach to these difficult questions; a data-driven approach to such an important question requires more work than simplistic box-checking via an online tool. Indeed, the Commission should look back to NCTA’s initial proposal, which called upon the competitors to come forward and prove their case with respect to

⁹⁸ Indeed, the aggressive evolution of NCTA’s approach here is telling – the goalposts keep moving backward. Previously, NCTA suggested that the process should be initiated through competitor petition, with the petitioner bearing the burden of proof. Now, in a transparent attempt to oversimplify the process, NCTA urges an automatic annual proceeding that would use the NBM as the *prima facie* indicator of competitive presence with some undefined opportunity for rebuttal by an RLEC. Compare NCTA Petition, p. 12 and NCTA January 18 Comments, p. 9. NCTA’s current suggestion is particularly problematic given how it has fought vigorously to keep underlying map data proprietary. See, e.g., Comments of NCTA, WC Docket No. 07-38 (filed July 17, 2008), p. 6 (“If the Commission establishes any new reporting obligations in connection with a mapping project, NCTA requests that it reiterate and continue its existing policy of preserving the confidentiality of any data it collects regarding broadband deployment and adoption. . . . If such information were made public, it undoubtedly would be used by competitors in developing their own strategies to compete with other broadband providers.”) As a result, under NCTA’s current proposal, the RLEC would now bear the burden of disproving a cable company’s claims with respect to competitive operations, but have no meaningful opportunity or capability for rebuttal absent access to the cable company’s underlying data. If adopted, this would violate basic parameters of procedural fairness.

the self-sustaining nature of a high-cost market before reducing or eliminating the ETC's support in that market. As the discussion in the next subsection indicates, this process certainly could and should utilize the NBM and other mapping resources as informational tools, but they cannot be dispositive in determining whether consumers will have affordable, "reasonably comparable" service in any given area absent USF support.⁹⁹

2. *The Commission Must Adopt a Reasonable but Robust Process for Defining and Identifying Unsubsidized Competition*

The Rural Associations have previously put forward a reasonable but robust process for examination of the potential presence of truly "unsubsidized competition" in RLEC study areas. This process, which is the only comprehensive mechanism in the record for addressing questions regarding "unsubsidized competition," certainly could include use of the NBM and Tele Atlas data as informational tools. However, a more robust process must require that the examination be triggered in the first instance – just as NCTA itself initially suggested – by the petition of a would-be "unsubsidized competitor" that desires to limit high-cost support to the incumbent ETC with whom it competes. To date, to the knowledge of the Rural Associations, no party has replied to these process proposals or provided any detailed alternatives of their own. Indeed, in the most recent comment filings, the proponents of this "unsubsidized competition" concept rush once again right to the conclusion of "cut support wherever an ETC faces competition" without worrying much, if at all, about the details of how one gets there.¹⁰⁰ For example, while NCTA recently proposed a trigger for reducing USF support upon a

⁹⁹ *Accord*, VT PSB, pp. 4-5; AK Commission, pp. 12-13.

¹⁰⁰ *See*, fn. 87, *supra*.

finding of a certain percentage of unsubsidized competition,¹⁰¹ the all-important “how” – the means by which unsubsidized competition might be defined and identified – is conspicuously lacking in any of the filings of NCTA or the few other parties who advocate this result. Such a rush to judgment must be rebuffed, and in its stead the Commission should adopt a more careful and thorough data-driven process (*i.e.*, a petition and evidentiary proceeding, much as NCTA proposed several years ago) for validating the presence of purported “unsubsidized competition” in rural markets.

The process previously detailed by the Rural Associations is one that can be easily implemented and ensures a proper balance between targeting USF support where needed while ensuring that COLR protections for rural consumers are not prematurely or falsely invalidated. To trigger this process, a would-be “unsubsidized competitor” should be required to aver and show through clear and convincing evidence in a petition to a state commission (with a copy to the applicable consumer advocate’s office) that, at a minimum:

- a) it is a state-certified carrier or ETC (to ensure adequate opportunity for regulatory and consumer advocate oversight);
- b) it can satisfy any public interest obligations required of the USF recipient (to ensure continuing service quality);
- c) it can deliver, as of the date of the filing of the petition, both voice telephony service and broadband speeds of at least 4 Mbps downstream/1 Mbps upstream and with latency and usage limits that meet the Commission’s broadband performance requirements for 100 percent of *both* the residential and business locations in the purportedly competitive area through the use of its own facilities in whole or in substantial part and in a manner comparable (fixed or mobile) to the relevant USF recipient. A fixed service can be either fixed wired or fixed terrestrial wireless. A fixed terrestrial wireless service should be defined as one that does not

¹⁰¹ Comments of NCTA, WC Docket No. 10-90, *et al.* (filed August 24, 2011), p. 12.

support roaming and requires a fixed ground station transmitting to a fixed transceiver located at the customer's premises;

- d) it offers each of those broadband and voice services on a stand-alone basis at rates that are reasonably comparable, as defined by the Commission, to those offered by the USF recipient (to ensure affordability of rates for consumers);
- e) it will comply with the same reporting, service monitoring, and other "accountability" requirements as a USF recipient for the area in question (to ensure a continuing ability for the Commission to monitor service quality *and* to ensure that the state and the Commission are aware to the extent that the competitor at some subsequent point no longer serves the entire market in the manner presented in the initial petition); and
- f) it neither receives high-cost support of any kind *nor* cross-subsidizes its operations in the specific, affected study area with revenues from other areas of operation or sources.¹⁰² Any competitor seeking to establish that it provides unsubsidized competition must be required to present evidence – in the form of *pro forma* financial statements for its operations in that area – demonstrating that the area is indeed "economic" of its own accord and can support a *stand-alone* business plan (*i.e.*, that service in the area is not being cross subsidized by revenues/profits from the competitive provider's other service areas or lines of business).¹⁰³

Once such a petition has been filed, the USF recipient whose support would be reduced due to unsubsidized competitive overlap should be given the opportunity to rebut the competitor's showing. This opportunity must include the ability to access and review, at the most granular level possible, the data filed by a competitor to ensure meaningful scrutiny and testing. Copies of all such filings should also be given to this Commission so that the state regulators, consumer advocates, interested industry stakeholders, and this Commission all have a complete record by which to judge whether

¹⁰² See, ADTRAN, fn. 19 (noting that subsidy may be achieved in any number of ways, including stimulus program funding or free spectrum).

¹⁰³ Absent such a showing, as noted above and in prior comments, the Commission runs the substantial risk of failing to identify accurately those areas that are in fact "uneconomic" to serve, thereby reducing or eliminating support where it is needed based upon the actual characteristics of those areas such as density, addressable market, etc.

support for a COLR should be reduced and the consequences of that decision on consumers in that study area.

We are now one year into the instant proceeding – and more than two years since NCTA first raised the concept of subdividing study areas based upon the presence of “unsubsidized competition” – and still no party other than the Rural Associations has made any serious attempt to propose a robust and meaningful process by which unsubsidized competition should be defined and identified. Accordingly, the Rural Associations urge the Commission to adopt their recommended process.

B. The Commission Should Finalize the Process and Monitor the Effects of Reducing Support in Areas with 100 percent Unsubsidized Competitive Overlap Before Moving to Reduce Support in Areas where Unsubsidized Competitors Serve Less than 100 percent of the Study Area

1. The Commission Should Resolve the Numerous Open Questions Regarding the Reduction of Support in Cases of 100 percent Competitive Overlap Prior to Any Consideration of Adopting a Lesser Trigger

In the FNPRM, the Commission asks for comment on a proposed methodology for reducing support in areas where an unsubsidized competitor serves less than 100 percent of a given study area. But as discussed above, the Commission has not yet determined what the proper process should be for identifying truly “unsubsidized competition,” even in areas of 100 percent competitive overlap. Nor has the Commission had the opportunity to evaluate the impacts of any reduction in support in such areas on the availability and affordability of voice and broadband services and whether the

“performance goals” adopted in the Order are being fulfilled.¹⁰⁴ Thus, as a matter of prudence, the Commission should evaluate whether the reduction or elimination of support in areas with 100 percent competitive overlap might result in higher end-user rates for voice and broadband services or lower service quality, including slower broadband speeds. This would then inform what additional steps the Commission should or should not take in other areas.¹⁰⁵

Moreover, there is no basis for – and substantial risk in – subdividing study areas into competitive “donut holes” and single provider “donuts” based upon the piecemeal presence of truly unsubsidized competition in certain census blocks within those study areas. While NCTA proposes 75 percent overlap as a potential trigger for applying the “unsubsidized competition” concept,¹⁰⁶ it fails to substantiate that such a trigger is appropriate. Indeed, the Commission itself has published data in the FNPRM indicating the number of study areas that might be affected at 95 percent, 90 percent, and 80 percent triggers.¹⁰⁷ Any of these arbitrary figures, however, threatens to result in “false positives” and leave large numbers of rural consumers without access to reasonably comparable voice and/or broadband services and rates. As a recent CenturyLink *ex parte*

¹⁰⁴ See, Order & FNPRM, ¶¶49-58 (defining performance goals that include, *inter alia*, preserving and advancing voice service, ensuring universal availability of voice and broadband, and ensuring reasonably comparable rates for broadband and voice services).

¹⁰⁵ This is not to say that the Rural Associations support reduction or elimination of support even in areas with 100 percent truly unsubsidized competitive overlap. See, NECA, OPASTCO, WTA Petition, pp. 18-19. Even in such cases, the USF recipient bears COLR obligations that may help to keep rates affordable or stimulate broadband-capable investment and service quality that would dissipate in the absence of support. But, assuming that the Commission will proceed forward with that aspect of its Order, it only then makes sense to define the process and study the impacts of it on a “pilot” basis before extending it to other service areas with less than 100 percent competitive overlap.

¹⁰⁶ Comments of NCTA, WC Docket No. 10-90, *et al.* (filed August 24, 2011), p. 12.

¹⁰⁷ Order & FNPRM, ¶1065, & Table 12.

highlights, there could be a substantial number of customers in any given census block who are not served by the unsubsidized competitor but for whom USF support is lost because they share a census block with a few addresses that are served.¹⁰⁸ The Commission would be serving neither its own performance goals nor the greater mission of universal service by using arbitrary percentage triggers that potentially cut off rural consumers who are unlucky enough to live down the road from someone who happens to have access to broadband from a competitor.¹⁰⁹

Here again, a robust and well-defined process for keeping track of current and subsequent developments becomes key. While a competitor may present information that it serves particular census blocks at the time of initial review, since the competitor is not subject to any COLR obligations, it could be free to stop offering service to any consumer or groups of consumers in that study area at any time. If it were to adopt such an approach, the Commission should plan on working with the state commissions to stay current on the continuing presence of a truly “unsubsidized competitor” in a given area. Such a safeguard is necessary to ensure that consumers will not be left behind at the whim of a competitive provider that decides at any given time that the cost of offering service to certain rural consumers no longer justifies operations in that area.¹¹⁰

¹⁰⁸ CenturyLink Letter, Slides 4-5. The Rural Associations concur with CenturyLink that it is essential to ensure that “all or almost all of the locations in the area” are served by the truly “unsubsidized competitor.” CenturyLink, p. 3.

¹⁰⁹ This is particularly troubling in rural areas where census blocks can be quite large in nature. *See*, Accipiter, pp. 21-22. Quite simply, the delivery of service by an “unsubsidized competitor” to some houses could result in other houses miles away losing (or never obtaining in the first instance) access to broadband service. In this sense, adopting a “partial competitive overlap” approach threatens to create and cement into place a new “rural-rural” divide within communities.

¹¹⁰ To this end, the Commission should consider adding to the definition of an “unsubsidized competitor” some showing of long-term commitment to the affected area

2. ***If the Commission Proceeds with a “Partial Competitive Overlap” Concept Notwithstanding the Concerns Raised Herein and in Other Comments, it Must First Establish a Clear Process for Disaggregation and Enable Sufficient and Reasonable Recovery of Costs***

If the Commission decides to move forward with reducing support based upon the partial presence of a truly unsubsidized competitor in a given RLEC study area, it must establish a process for the disaggregation of the affected study area and a reasonable opportunity for the RLEC to recover its costs. To begin with, as a matter of law and good policy, the Commission should apply any reduction in support only on a going-forward basis. RLECs should not be penalized for investments made in good faith pursuant to rules in existence at the time investments were made.¹¹¹ Past investment should be recovered through segregated subaccounts, and any reductions in a RLEC’s recovery of operating expenses should be phased in over a period of time that allows the RLEC to adjust to the changed rules. The RLEC would then know that “the next dollar” spent in the competitive area would be subject to the new rules. However, its ability to recover prior investment made in reliance on the regulatory compact and high-cost support rules previously maintained by this Commission is not threatened.

Next, the Commission would need to address how, as a practical matter, costs would be disaggregated in the affected study area to establish the “boundaries” between ostensibly “competitive” and “non-competitive” areas. This is not an easy exercise and, to compound matters further, the Commission just recently eliminated the disaggregation

by the competitor. For example, the competitor should be required to show that it has operated already in that area for some reasonable period of time (*e.g.*, two or three years) prior to seeking to be qualified as an “unsubsidized competitor” there, and show that it has made substantial facilities investments throughout the census block in question.

¹¹¹ It is also worth noting that those investments may have been made in part or in whole prior to the time that any competitor materialized in the market.

rule that might have provided some guidance on how this would be done.¹¹² NCTA suggests that the cost model to be adopted by the Commission sometime in the next year or so might assist in allocating costs between census blocks.¹¹³ However, it is simply too soon to tell if this will be the case since that cost model has not been filed, tested, or approved. Moreover, certain network elements, such as transport, routers, and softswitches, are likely to be used in both “competitive” and “non-competitive” areas, and it is not at all clear yet how the model would deal with such complexities.¹¹⁴

Also, upon a competitor’s showing by virtue of clear and convincing evidence that it offers truly unsubsidized competitive service to the consumers throughout the relevant area, the final determination regarding the precise amount of support reductions should rest with the state.¹¹⁵ There are a variety of situations and circumstances in which a reduction in support may not be in the public interest, despite the reduced cost to the federal USF or the presence of a competitor in part of the area. State commissions are well-versed in making such determinations as a result of having reviewed requests for

¹¹² *Connect America Fund*, WC Docket No. 10-90, *A National Broadband Plan for Our Future*, GN Docket No. 09-51, *Establishing Just and Reasonable Rates for Local Exchange Carriers*, WC Docket No. 07-135, *High-Cost Universal Service Support*, WC Docket No. 05-337, *Developing an Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, *Lifeline and Link-Up*, WC Docket No. 03-109, *Universal Service – Mobility Fund*, WT Docket No. 10-208, Order, DA 12-147 (released February 3, 2012).

¹¹³ NCTA, p. 8.

¹¹⁴ See, ADTRAN, p. 15 (“ADTRAN cautions the Commission not to adopt a simple, proportionate reduction in support, because it will likely be the case that a competitor chose to ‘cherry pick’ the lowest cost areas to serve. To the extent the Commission relies on a cost model to reduce the support, that model must be sufficiently granular that it can determine the necessary support for the particular areas not served by the competitor, rather than simply assuming that costs are uniform to all customer locations within that territory.”).

¹¹⁵ AK Commission, p. 15.

ETC designation for years. The same “public interest” issues that drove such determinations of whether to designate a competitive ETC – including questions such as the impact on reasonable and comparable rates, concerns about potential “creamskimming,” and the quality of services being offered – are issues that the states are once again best positioned to evaluate in the context of whether and to what extent an incumbent ETC’s high-cost support should be reduced.

Finally, as a backstop against irreparable harm, the Commission must create a reasonable and economical federal waiver mechanism by which the high-cost support recipient can seek to maintain support, slow down the schedule at which it is reduced, or have it reinstated. There is a high probability that some RLECs will fail absent relief from a blanket rule, leaving rural consumers without a COLR or in a “broadband backwater” because the RLEC cannot afford to upgrade or maintain plant. RLECs should be able to make a showing that a waiver is appropriate and in the public interest.

VI. THE RECORD IN THIS PROCEEDING DOES NOT SUPPORT THE APPLICATION OF ANY BROADBAND-SPECIFIC PERFORMANCE REQUIREMENTS OR OTHER NEW MANDATES TO RLECS, PARTICULARLY IN THE ABSENCE OF A SUFFICIENT AND PREDICTABLE CAF FOR THESE CARRIERS

As noted above, “reforms” adopted to date in this proceeding for RLEC high-cost support mechanisms will severely hamper these carriers’ ability to maintain, much less upgrade and extend, their broadband-capable networks. Therefore, until such time as the Commission adopts a sufficient and predictable CAF for RoR carriers, such as the RLEC Plan, it should not impose any additional broadband-specific performance requirements or other new mandates on these carriers.

As one commenter correctly notes, the Commission should “use restraint in imposing any additional requirements on support recipients under the guise of the ‘public interest,’” as they “add cost, which will reduce the number of currently unserved locations that will obtain broadband.”¹¹⁶ This is particularly true in the case of RLECs, since the only “reforms” adopted thus far for these carriers have consisted of cuts and caps to the existing support mechanisms along with proposed additional limits on cost recovery.¹¹⁷ Surely, it is neither reasonable nor realistic to expect RLECs to comply with public interest obligations that most were unable to meet even *before* support-reducing reforms were adopted. In addition, in light of the cuts imposed on the existing mechanisms, “the requirement to deploy and maintain a 4/1 Mbps broadband capable network is an unfunded mandate.”¹¹⁸

Moreover, the record in this proceeding does not indicate that a basis exists for the Commission’s concerns regarding the accountability of RLECs with respect to their use of the high-cost support they receive. Nor is there any indication that broadband performance reporting requirements, in addition to those already applicable to broadband providers, are necessary. As the long-standing COLRs in their service areas, RLECs already have numerous service quality and reporting obligations imposed on them and they have a demonstrated track record of providing their customers with the highest-quality voice and broadband services possible. Thus, it makes little sense to impose additional broadband-related public interest obligations and other requirements on these

¹¹⁶ ADTRAN, p. 5. *See also*, Independent Telephone & Telecommunications Alliance (ITTA), pp. 4-5.

¹¹⁷ Order & FNPRM, ¶¶ 210-252, 272-284, 894.

¹¹⁸ Moss Adams Companies, p. 19.

carriers that would only divert resources away from actually serving customers and meeting the Commission's universal broadband goals.

A. Should the Commission Adopt Broadband Service Measurement and Reporting Requirements, They Should be Flexible in Nature and Take Advantage of Broadband Performance Data Already Available

No broadband service measurement and reporting requirements should be applied to RLECs until the Commission pairs them with a sufficient and predictable CAF mechanism, such as the RLEC Plan. However, if and when such requirements are imposed on RLECs, initial comments filed in this proceeding confirm that a number of technical and practical concerns must first be addressed. Commenters also suggest that prior to adopting additional requirements, the Commission should take advantage of other broadband performance data already available. Furthermore, any requirements imposed on RLECs should be flexible in nature to minimize the burden on small providers.

As the Rural Associations noted in their initial comments, the Commission should not base compliance with minimum speed and latency requirements upon the performance of other providers' facilities over which the high-cost support recipient has no control. A broadband performance measurement requirement should be applicable to only those portions of the network that the RLEC actually owns and controls. As one commenter states, "it is impossible...to measure or control either in the portions of the network that extend beyond the network interface device (NID) into the customer's premise or beyond the hand-off of traffic to an ISP or backhaul provider."¹¹⁹

¹¹⁹ Alaska Communications Systems Group, Inc. (ACS), pp. 3-4. Also, like the Rural Associations, ACS points out that "at the customer premises speed and latency can be affected by customer modem and computer limitations." *Id.*, fn. 5.

In addition, the FNPRM’s proposal to utilize SamKnows-type white boxes to measure broadband network performance is not supported by the record. To begin with, any large scale testing process could “place such a load on networks as to slow performance for customers and/or require service providers to add capacity just to handle the testing.”¹²⁰ Also, as USTelecom notes, the initial testing launched in July 2010 proved to be costly and time-consuming for the large, multi-state Internet Service Providers that took part in the 18 month long process.¹²¹ It would therefore likely be exceedingly burdensome for small providers, such as RLECs, with limited financial resources and manpower. Moreover, the SamKnows testing process demonstrated that “fixed wireline provider performance claims for the broadband services that were tested were fundamentally accurate.”¹²² This calls into question the necessity of imposing broadband-performance measurement obligations on RLECs in the first place.

In that regard, a couple of commenters point out that the Commission already collects broadband performance related information through existing reporting requirements, such as those contained in the *Open Internet* rules and via FCC Form 477.¹²³ The Commission should therefore take advantage of this existing data prior to considering additional measurement and reporting requirements for RLECs.

Should the Commission nevertheless decide to impose a broadband performance measurement requirement on RLECs, it should strongly consider a flexible approach for these and other small carriers. The Commission could, for example, adopt the suggestion

¹²⁰ Windstream, p. 13.

¹²¹ USTelecom, pp. 11-12.

¹²² *Id.*, p. 11.

¹²³ ITTA, pp. 3-4; CenturyLink, p. 5.

to limit high-cost support recipients' testing requirements to a sampling of customers, rather than a larger-scale requirement that would severely encumber small carriers with already limited resources.¹²⁴ This would lessen the burden imposed on RLECs and their networks, while also providing the Commission with reliable broadband performance data. The Commission should also consider the proposal to permit high-cost support recipients to certify to the Universal Service Administrative Company (USAC) that the broadband services they provide meet the broadband performance metrics adopted by the Order.¹²⁵ Testing results could be retained by USF/CAF recipients and be made available upon request of USAC or the Commission. This would minimize the reporting burden on RLECs, freeing up resources to provide quality service to customers.

B. Commenters Agree that Adoption of a Specific IP-to-IP Interconnection Requirement Applicable to CAF Recipients is Unwise and Premature; CAF Support Should Not be Conditioned on Recipients Making IP-to-IP Interconnection Available to Requesting Carriers

Commenters agree that the Commission should not impose a specific IP-to-IP interconnection requirement on CAF recipients.¹²⁶ IP-to-IP interconnection is a complex issue with many components that the industry is only beginning to confront. The Commission asks many questions about IP-to-IP interconnection in section XVII. P. of the FNPRM so that it can compile a record for the development of an overall policy framework applicable to the entire industry. Moreover, “in light of independent industry

¹²⁴ ADTRAN, p. 11; USTelecom, p. 12.

¹²⁵ USTelecom, p. 13; ITTA, p. 4. It should be noted, however, that absent a sufficient and predictable CAF for RoR carriers, many RLECs will be unable to invest in the network facilities necessary to meet the Order's broadband speed and latency requirements.

¹²⁶ CRUSIR, p. 3; ITTA, p. 6; CenturyLink, p. 3; Windstream, p. 13; USTelecom, p. 14.

efforts to develop comprehensive [IP-to-IP] guidelines...[a]dopting regulatory mandates before industry standards have been established could force providers to develop a patchwork of carrier-by-carrier technical requirements.”¹²⁷ Therefore, it would be unwise and premature for the Commission to adopt rules that are applicable only to CAF recipients prior to adopting an overall policy framework for IP-to-IP interconnection.

The Commission should also reject the suggestion that CAF support be conditioned on recipients making IP-to-IP interconnection available to other carriers.¹²⁸ While Cablevision/Charter assert that section 254 provides the Commission with the authority to establish such a requirement, it ignores well-established precedent stating that section 251 interconnection rights do not allow a requesting carrier to force an ILEC to upgrade its facilities or deploy new functionalities to accommodate interconnection requests.¹²⁹ Yet, this would be precisely the result of Cablevision’s proposal, requiring RLECs to invest in substantial network upgrades while diverting resources from the provision of high-quality voice and broadband services to rural consumers. The

¹²⁷ ITTA, p. 6. The reference to “independent industry efforts” concerns the efforts of the Alliance for Telecommunications Industry Solutions (ATIS) to develop an IP-to-IP interconnection framework.

¹²⁸ Cablevision Systems Corporation and Charter Communications, Inc. (Cablevision/Charter), pp. 4-7.

¹²⁹ Reply Comments of NTCA and OPASTCO, WC Docket No. 11-119 (filed August 30, 2011), pp. 6-7. In that proceeding, NTCA and OPASTCO noted that the 8th Circuit Court of Appeals declared that section 251(c)(2) requires access “only to an incumbent LEC’s existing network – not to a yet unbuilt superior network” *Id.*, p. 6. NTCA and OPASTCO also stated that “this is equally true for section 251(a), which captures a lower threshold for interconnection.” *Id.* See also, Reply Comments of CenturyLink, WC Docket No. 11-119 (filed August 30, 2011), p. 3; Reply Comments of Frontier, WC Docket No. 11-119 (filed August 30, 2011), pp. 2-4; Comments of USTelecom, WC Docket No. 11-119 (filed August 15, 2011), pp. 3-4.

Commission should continue to make clear that interconnection obligations attach only when *both* parties have the requisite technical capability.

C. Commenters Agree that a Technology Opportunities Program and a Requirement that CAF Recipients Make their Facilities Available to Community Broadband Networks Are Unnecessary

The record in this proceeding does not support the adoption of a Technology Opportunities Program (TOP) or a requirement that CAF recipients make available interconnection points or backhaul facilities to community broadband networks. Regarding a TOP, commenters recognize that this would only divert funds from existing high-cost support mechanisms,¹³⁰ which are already severely limited by the Commission's High-Cost program "budget." Also, as the Rural Associations previously noted, the effectiveness of the CAF for price cap carrier service areas will not be known for some time, and a CAF for RoR carriers has yet to be established. Thus, it is premature to redirect scarce funds for supporting commercial providers to a pilot program for assisting community broadband networks when such a program may not even be necessary.

Commenters also see little wisdom in requiring CAF recipients to make interconnection or backhaul facilities available to community broadband networks.¹³¹ For one, such a requirement would impose costs on carriers providing service in rural areas of the nation, which would need to be recovered from a High-Cost program already strained for resources.¹³² Moreover, commenters question the efficacy of these

¹³⁰ Windstream, p. 15; USTelecom, pp. 15-16.

¹³¹ Windstream, p. 13; Frontier Communications Corporation (Frontier), pp. 7-8; CenturyLink, p. 8; Western Associations, p. 13.

¹³² Frontier, pp. 7-8 ("Providing interconnection points and backhaul capability comes at a substantial cost to a wireline provider and to the extent those costs are not included in

community networks.¹³³ As the established COLRs in their territories, RLECs already have a proven track record of providing high-quality, affordable services to their customers. Therefore, the Commission should focus its resources on establishing a sufficient and predictable CAF for RoR carriers. In particular, adoption of the RLEC Plan will enable these carriers to improve the quality and reach of their broadband-capable networks and provide “reasonably comparable” broadband services and rates to their rural customers, as the 1996 Act requires.

D. Commenters Agree that Requiring Small Carriers to Obtain Irrevocable Standby Letters of Credit Would be Unnecessarily Burdensome and Adversely Affect their Ability to Deliver Universal Service

In their initial comments, the Rural Associations showed that RLECs have a long and exemplary record of compliance with the section 254(e) mandate that federal support be used “only for the provision, maintenance, and upgrading of facilities and services for which the support is intended.”¹³⁴ This is corroborated by state commission ETC certification proceedings, by USAC and Office of Inspector General (OIG) audits, and by the commendations of the Joint Board in its 2007 Recommended Decision.¹³⁵ In light of the substantial record of RLEC compliance with the high-cost support rules, there is no need, nor basis in the record, for imposing burdensome and expensive new accountability

the CAF-recipients’ funding it would violate the Universal Service Fund’s statutory “sufficiency” requirement.”).

¹³³ CenturyLink, p. 8 (stating that, “the Public Knowledge and Benton Foundation proposal seems to assume that municipalities would have the requisite competencies and capabilities to deploy and maintain a broadband network. But experience has shown that more often than not municipalities lack the foundation of knowledge and investment that ensure the long-term viability and expertise customers expect from a provider.”). *See also*, Western Associations, p. 13.

¹³⁴ Rural Associations, pp. 40-47.

¹³⁵ Joint Board 2007 Recommended Decision, 22 FCC Rcd 20477, 20485, ¶ 30.

requirements on these carriers. This is particularly true with respect to the proposal to require ETCs to obtain an irrevocable standby letter of credit (LOC).

Initial comments filed in this proceeding confirm that the proposal to require ETCs to obtain an irrevocable LOC is unwise and unnecessary. At a minimum, LOCs will be very expensive for RLECs and other small businesses to negotiate, obtain, and renew.¹³⁶ The substantial points and fees paid for LOCs will divert scarce financial resources away from broadband deployment and service at a time when the Commission is seeking to reduce the high-cost support it provides for corporate operations and other RLEC operating expenses. Moreover, it is likely that in many cases RLECs and other small ETCs will be unable to obtain LOCs at an affordable price, and consequently could be disqualified from participating in USF programs.¹³⁷ As a result, “[r]equiring an LOC prior to funding could completely prohibit carriers that need the support from receiving it. In turn, it would penalize customers in rural areas, which is contrary to the stated public policy goals of the *CAF Order*.”¹³⁸

Further research by the Rural Associations indicates that: (a) issuing banks generally require the recipient of an irrevocable standby LOC to maintain funds on

¹³⁶ ADTRAN, p. 16 (stating that LOCs impose substantial costs “typically an annual fee of from 1-8% of the amount of the credit”). *See also*, ARC, pp. 20-21; Frontier, pp. 11-12.

¹³⁷ In fact, it is unclear how any small carrier could possibly secure a letter of credit from one of the largest banks – which is what the Commission apparently deems a minimum standard as an “acceptable” institution – when the adverse impacts of the Order and the regulatory uncertainty created by the FNPRM have severely limited credit available to RLECs even from much smaller financial institutions. *See* 47 C.F.R. § 54.1007 (setting forth letter of credit requirements for Mobility Fund Phase 1).

¹³⁸ ARC, p. 21.

deposit in the bank in an amount sufficient to cover the amount of the LOC;¹³⁹ (b) issuing banks virtually always limit the term of an irrevocable standby LOC to a period of no more than one year;¹⁴⁰ (c) financial institutions generally issue irrevocable standby LOCs, at a minimum, in denominations of \$100,000 or \$200,000;¹⁴¹ and (d) the cost of irrevocable standby LOCs frequently range from one point to at least nine points of the face value (depending upon the amount of the LOC, the size and financial strength of the recipient, the previous relationship and experience of the bank with the recipient, and other risk factors), plus processing fees to cover the bank's administrative and legal expenses.¹⁴² These expended and committed funds could be much better used by the RLEC to serve its rural customers, particularly given the lack of any perceptible record of waste or misuse of high-cost support by RLECs.

ADTRAN, a non-ETC that manufactures networking and communications equipment, also notes that the adverse impacts of LOCs would be exacerbated by the Commission's proposal to include a default penalty in the amount of the LOC, thereby

¹³⁹ See, e.g., <http://answers.yahoo.com/question/index?qid=20080505104704AAujzaQ> (visited 2/8/2012); <http://www.totalmerrill.com/TotalMerrill/pages/ArticleViewer.aspx?TITLE=standbyletterofcredit> (visited 2/8/2012). See also, ADTRAN, p. 16.

¹⁴⁰ See, e.g., <http://answers.yahoo.com/question/index?qid=20080505104704AAujzaQ> (visited 2/8/2012); <http://www.investopedia.com/teerms/s/standbyletterofcredit.asp> (visited 2/2/2012).

¹⁴¹ See, e.g., <http://answers.yahoo.com/question/index?qid=20080505104704AAujzaQ> (visited 2/8/2012); <http://www.totalmerrill.com/TotalMerrill/pages/ArticleViewer.aspx?TITLE=standbyletterofcredit> (visited 2/8/2012).

¹⁴² See, e.g., <http://www.investopedia.com/teerms/s/standbyletterofcredit.asp> (visited 2/2/2012); http://www.fhlbboston.com/members/solutions/newsletter/spring_07/letter_of_credit.html (visited 2/8/2012). The Federal Home Loan Bank of Boston listed its 2007 letter of credit charges as "nine basis points for a letter of credit of \$10 million or more, 12.5 basis points for \$1 million to \$10 million, and 25 basis points for those under \$1 million."

creating significant risk that the Commission could draw it down (including the “default” payment in excess of the support) without any prior notice or hearing in violation of due process requirements.¹⁴³ ADTRAN concludes that the proposed LOC and penalty provisions will reduce the amount of funds otherwise available for the deployment of broadband services, and discourage service providers from participating in universal service and broadband deployment programs.¹⁴⁴

The only commenting party advocating the imposition of an irrevocable standby LOC requirement upon RLECs and other small ETCs is the Massachusetts Department of Telecommunications and Cable (MDTC). The MDTC asserts that the LOC requirement should apply to *all* ETCs -- not only to high-cost support recipients, but also to ETCs that seek only low-income support.¹⁴⁵ The MDTC offers no explanation of its position other than noting that Massachusetts is a net-payor state that has “a heightened sensitivity to wasteful spending of USF/CAF funds.”¹⁴⁶ It does not identify any type or category of federal USF support recipient in Massachusetts or elsewhere that has failed to use that support for its intended purposes, or that has otherwise engaged in waste, fraud, or abuse that justifies more stringent accountability requirements. The MDTC also gives no indication that it has investigated the availability or cost of LOCs to small ETCs, or the other options available to the Commission to protect the integrity of its high-cost support mechanisms while enabling small businesses to continue to participate in them.

¹⁴³ ADTRAN, p. 17.

¹⁴⁴ *Id.*, pp. 16-17.

¹⁴⁵ Massachusetts Department of Telecommunications and Cable (MDTC), p. 32.

¹⁴⁶ *Id.*

In contrast, the Indiana Utility Regulatory Commission has considered the likely consequences of a LOC requirement, and advises “extreme caution” in requiring ETCs, including RLECs, to obtain irrevocable standby LOCs.¹⁴⁷ Stating that revenues for most RLECs operating in Indiana will be significantly reduced as a result of the Order, the Indiana Commission argues that imposing a LOC requirement could place further financial strain on already stressed companies, and that the primary regulatory goal needs to be to maintain service providers rather than eliminating them.¹⁴⁸

Moreover, the requirement for an irrevocable standby LOC would not only be unduly burdensome, but would also be overly broad and unnecessary. This is because, as ITTA points out, the accountability and financial viability objectives sought to be achieved by a LOC are already met by the ETC designation process and other measures.¹⁴⁹ Likewise, ADTRAN advocates that the current measures employed by USAC (supplemented by record keeping and reporting requirements) are sufficient to attain the Commission’s accountability objectives.¹⁵⁰

A group of consumer advocates, including NASUCA, states that the Commission should “filter out those carriers with financial situations that are so precarious as to jeopardize the integrity of the USF program.”¹⁵¹ Yet, the Consumer Advocates stop short of advocating that all ETCs be required to make specific financial guarantees or that penalties be imposed for non-compliance with deployment, service, or public interest

¹⁴⁷ IURC, p. 7.

¹⁴⁸ *Id.*

¹⁴⁹ ITTA, pp. 10-11.

¹⁵⁰ ADTRAN, pp. 16-18.

¹⁵¹ Consumer Advocates, p. 59.

obligations. Rather, they support clearly defined regulatory oversight based upon specific obligations and triggers, mixed with flexibility to allow recipients a period of time to cure non-performance.¹⁵²

In the same vein, AT&T states that the Commission should apply any LOC requirement “only to CAF recipients that are awarded high-cost support to perform Commission-specified actions within Commission-specified periods of time,” and then only to “those recipients that do not satisfy certain bright-line criteria.”¹⁵³ Similarly, Frontier states that an irrevocable standby LOC may be appropriate in those relatively rare instances where an ETC recipient of high-cost support has committed substantial violations of the Commission’s USF rules, but not for ETC recipients having a long history of receiving and using universal service funding consistent with Commission requirements.¹⁵⁴

Finally, US Cellular indicates that concerns about the adverse impacts of LOCs are not confined solely to wireline ETCs.¹⁵⁵ US Cellular declares that the LOC requirement would have the effect of reducing the amount of capital available to wireless support recipients as well, and these adverse impacts would be especially acute with respect to smaller carriers, which have more limited access to capital markets. It also notes that LOC requirements can significantly constrain borrowing capacity.

¹⁵² *Id.*, pp. 60-61.

¹⁵³ AT&T, pp. 29-31.

¹⁵⁴ Frontier, p. 11. ITTA also points out that LOCs are very expensive for mid-sized ILECs (including upfront fees and ongoing maintenance fees), and that they adversely impact existing credit agreements, financial covenants, revolving credit facilities, and corporate debt ratings. ITTA, p. 11.

¹⁵⁵ US Cellular, pp. 50-51.

In sum, virtually all parties that have considered and commented upon the matter agree with the Rural Associations that an irrevocable standby LOC requirement is unnecessary to protect the integrity of high-cost support funds, particularly those distributed to RLECs that have a long history of receiving and using high-cost support in a manner fully consistent with Commission requirements. In addition, it is unduly burdensome and expensive, and would have particularly adverse consequences for the rural customers of RLECs and other small businesses that lack the established banking relationships needed to obtain LOCs (or, at least, to obtain them at an affordable price). The proposed irrevocable standby LOC requirement should therefore be rejected by the Commission.

VII. THE COMMISSION SHOULD TAKE SEVERAL ACTIONS TO BETTER ENABLE SMALL WIRELESS PROVIDERS TO DEPLOY MOBILE SERVICES TO ADDITIONAL RURAL CONSUMERS

A. Reasonable Roaming Regulations Would Increase Coverage in Rural Areas and Decrease Rural Carriers' Dependency on Mobility Fund Support

The Rural Associations support commenters who point out deficiencies in the Commission's roaming regulations, that if corrected, would make Mobility Fund support more efficient.¹⁵⁶ As RTG points out, the Commission's "current data roaming regulatory framework is structured in such a way that it unintentionally imposes a chilling effect on the actions of both rural carriers and the rural customers of wireless carriers."¹⁵⁷ The Rural Associations support proposals to require low reciprocal data roaming rates for 3G and 4G service.

¹⁵⁶ Rural Telecommunications Group (RTG), pp. 3-5, Blooston Rural Carriers, p. 12, RCA, p. 15.

¹⁵⁷ RTG, p. 3.

Current regulations permit larger carriers to set artificially inflated inter-carrier wholesale data roaming rates for roaming traffic between themselves and small, rural carriers. These inter-carrier rates are at levels that typically exceed the retail rates offered by the nationwide carriers. This framework ensures that most small, rural wireless carriers have no ability to offer nationwide coverage at a competitive retail price. Small, rural carriers have the Hobson's choice of offering a nationwide plan at a competitive price and forgo recovery of their customer's roaming costs, or pass along the cost to their customers who will likely switch service to a cheaper nationwide provider – but who may not offer quality service in the customer's home rural market. Alternatively, some rural consumers may feel compelled to purchase two mobile service packages phones – one for rural coverage and one for urban coverage.

Further, a lack of reciprocal roaming requirements has led to nationwide carriers turning off roaming for their customers, whether they sufficiently cover the area or not. Thus, those customers of the nationwide carriers who travel into rural markets where their service provider has insufficient coverage are left without service, even though service could have been available via roaming. Therefore, by creating an environment where reciprocal roaming is required and inter-carrier wholesale data roaming rates are low, the Commission would increase overall traffic and small, rural carriers would be able to generate some consistent level of roaming revenue. In turn, this will decrease rural carriers' dependency on Mobility Fund support.

B. The Commission Should Use Specific Criteria That Will Enable it to Maximize the Number of Rural Areas Eligible for Phase II Support

The Rural Associations support the Commission's proposal that any provider that is offering 3G or better service at the time of a Mobility Fund Phase II auction in an area

for which it receives Mobility Fund Phase I support should not be considered an unsubsidized carrier.¹⁵⁸ Areas that receive Mobility Fund Phase I support must be eligible to receive ongoing Phase II support to ensure that the investment made as part of Phase I continues to be supported from an operations perspective.

The Commission should clarify whether certain Tier I carriers will be classified as subsidized or unsubsidized carriers. Carriers must know whether or not certain areas will be eligible to receive funding in order to adequately prepare for the Phase II auction. The Commission should also adopt a timeframe for contesting certain FCC determinations, such as which areas are eligible, and a timeframe for resolving such appeals. It should also clarify that changing the status of a carrier from subsidized to unsubsidized during the support term will not have an effect on the ability of other carriers to continue receiving support.

The Rural Associations have reservations about the accuracy of the American Roamer data, and the Commission should not rely solely on it to determine coverage areas. American Roamer data is voluntarily self-reported and contains substantial inaccuracies.¹⁵⁹ The Rural Associations' members report that carrier coverage area as shown on American Roamer maps is often overestimated and in some instances not even available. Carriers must be able to challenge the information used to determine whether a certain area is declared eligible or ineligible due to the presence of an existing carrier's service and carriers must have a method to respond to a challenge.

Further, the Rural Associations agree that the Commission should address interoperability issues by requiring handset and other mobile device compatibility across

¹⁵⁸ See, Order & FNPRM, fn. 2247; RTG, p. 6.

¹⁵⁹ See, Blooston Rural Carriers, p. 18.

all networks.¹⁶⁰ With compatibility, 4G networks could be shared, realizing a large cost savings. Conversely, without device interoperability, non-rural customers cannot avail themselves of the supported networks.

Finally, the FCC's first priority when distributing Phase II support should be to not harm existing coverage in hard-to-serve areas throughout the United States. Areas that already have some form of coverage should not be put at risk of losing that coverage. Bidding credits should be provided in rural areas where basic mobile services will be at risk without sufficient high-cost support. A waiver process is necessary to protect customers at risk of losing service because their rural carrier was unsuccessful in obtaining funding.

C. Auctions Should Be Structured to Maximize Small Carrier Participation

The Rural Associations support measures to ensure that small carriers may successfully participate in any auction process. To be clear, the Rural Associations continue to express their opposition to, and have severe reservations about, any reverse auction process, as they are unworkable and unlikely to produce desirable results.¹⁶¹ However, if the reverse auctions do take place, the Commission must strive to ensure that they are equitable and that small, rural carriers have a reasonable chance of success in the process. To that end, in any Phase II reverse auction, bidding credits should be available,

¹⁶⁰ See, RCA, pp. 15-16.

¹⁶¹ See generally, Rural Associations' April 18, 2011 comments, pp. 75-80 (stating that reverse auctions would encourage a "race to the bottom" that could result in serious service quality problems, would inhibit investment in RoR service areas, and may leave rural areas without suitable COLRs if an auction winner fails to meet its service quality obligations).

package bidding should be limited, and the first auction should be studied before further auctions are developed.

To ensure small business participation and successful rural deployment, the Commission should award Phase II bidding credits that lower bid amounts for carriers that are small businesses or that meet certain public interest objectives associated with delivering mobile broadband to unserved markets. The specific criteria to qualify for a bidding credit should include “status as a small business, proposing to serve low population density areas and demonstrated long-term provision of service to rural areas.”¹⁶² Granting bidding credits to carriers meeting one or more of these criteria would serve the public interest by helping to initiate and maintain economic development in rural areas.

Similarly, the Commission should limit the size of package bids. A limitation would allow for meaningful participation by small carriers interested in serving rural areas. It would also help safeguard against larger carriers receiving a majority of the Phase II support.¹⁶³

The Commission proposes to distribute ongoing Phase II Mobility Fund support using a reverse auction mechanism based on what is used to distribute Phase I support. The Commission has not yet released details concerning Phase I. The Commission cannot know whether the Phase I reverse auction is appropriately designed until it is over and processes and results can be analyzed.¹⁶⁴ Given the importance of the Phase II

¹⁶² See, e.g., RTG, p. 14.

¹⁶³ See, Blooston Rural Carriers, p. 3, 12; T-Mobile, p. 5, C Spire, p. 26; U.S. Cellular, p. 38.

¹⁶⁴ See, RTG, p. 17.

auction and the danger to small businesses and rural communities if it is incorrectly designed, the Commission must take into consideration what worked and what did not work in Phase I. The Rural Associations urge the Commission to delay setting the details for the Phase II auction until after Phase I of the Mobility Fund is complete and the Commission and the industry have had time to evaluate the process and results.

For Phase I of the Mobility Fund, the Commission correctly determined that carriers seeking to participate in the auction for support must be an ETC in the areas for which they will seek support at the deadline for applying to participate.¹⁶⁵ In fact, the Act requires the Commission make such a determination. Only an ETC designated under section 214(e) of the Act is eligible to receive specific Federal universal service support.¹⁶⁶ Accordingly, the FCC lacks the authority to provide support from Phase II of the Mobility Fund or any other High-Cost program mechanism to non-ETCs.

Allowing carriers that have not been designated as an ETC to participate in, or receive support from, the Mobility Fund would violate universal service provisions outlined in the Act. Phase II of the Mobility Fund must comply with the requirements of the Act and ensure that support flows to ETCs as Congress intended. There is no ambiguity or leeway in the Act for the Commission to do otherwise.

VIII. CONCLUSION

The record in this proceeding, the Communications Act, and/or the public interest support the following action by the Commission:

- Adoption of the RLEC Plan, which is a reasonable and well-defined CAF mechanism that will provide sufficient and predictable support for the provision of broadband service in RoR service areas.

¹⁶⁵ Order & FNPRM, ¶389.

¹⁶⁶ 47 U.S.C. § 254(e).

- Leave the current authorized interstate rate of return in place pending the development of procedures governing cost of capital determinations and a full evidentiary hearing on the matter, especially considering that no factual basis exists to change it.
- Reconsider the decision to employ quantile regression methods to limit RLECs' reimbursement for capital and operating costs, as the record and further analysis provided by the Rural Associations demonstrates that it is arbitrary and capricious.
- Decline to reduce or eliminate high-cost support for areas with purported "unsubsidized competition." However, if the Commission decides to pursue this path, it should first adopt a well-defined process for identifying areas with unsubsidized competition and how support might be reduced in those areas. It should then monitor the effects on universal service in areas with 100 percent competitive overlap before moving to reduce support in areas with less than 100 percent competitive overlap.
- Decline to impose additional broadband-related public interest obligations and other requirements on RLECs, at least until such time as the Commission adopts a sufficient and predictable CAF for RoR carriers.
- With respect to the Mobility Fund, adopt: (1) reasonable roaming regulations, (2) criteria to maximize the number of rural areas eligible for Phase II Mobility Fund support, and (3) measures to maximize small wireless carrier participation in Mobility Fund auctions.

Respectfully submitted,

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Appendix A

Professor Randall Billingsley Rebuttal Statement: Ad Hoc Telecommunications Users
Committee Interstate Rate of Return Represcription Comments in response to Report and Order
and Further Notice of Proposed Rulemaking, FCC 11-161, November 18, 2011

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20544**

In the Matter of)	
)	
Interstate Rate of Return Represcription)	
Report and Order and Further Notice of Proposed)	
Rulemaking, FCC 11-161, November 18, 2011)	WT Docket No. 10-208
("ICC/USF Reform Order/FNPRM"))	
)	
)	

REBUTTAL STATEMENT OF

DR. RANDALL S. BILLINGSLEY, FRM, CRRRA, CFA

February 17, 2012

REBUTTAL STATEMENT OF RANDALL S. BILLINGSLEY

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**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
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Interstate Rate of Return Represcription)	
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("ICC/USF Reform Order/FNPRM"))	
)	
)	

REBUTTAL STATEMENT OF RANDALL S. BILLINGSLEY

I. INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is Randall S. Billingsley. I am currently Visiting Professor of Finance at Wake Forest University and am also a finance professor at Virginia Polytechnic Institute and State University. I also act as a financial consultant in the areas of cost of capital analysis, financial security analysis, and valuation. More details on my qualifications may be found in Billingsley Exhibit No. RSB-1 of my previously-submitted statement in this proceeding (Statement of Randall S. Billingsley, January 18, 2012). My current university address is: Schools of Business, Wake Forest University, P. O. Box 7659, Winston-Salem, NC 27109.

This rebuttal statement presents my independent professional opinions and is not

presented by me as a representative of Wake Forest University or Virginia Polytechnic Institute and State University.

Q. Have you previously submitted a statement in this proceeding?

A. Yes.

II. PURPOSE OF REBUTTAL STATEMENT AND SUMMARY OF CONCLUSIONS

A. PURPOSE OF REBUTTAL STATEMENT

Q. What is the purpose of your rebuttal statement in this proceeding?

A. My purpose is to critically evaluate the comments filed by Ms. Susan M. Gately, Helen E. Golding, and Mr. James S. Blaszak on behalf of the Ad Hoc Telecommunications Users Committee (Ad Hoc Committee) before the Federal Communications Commission (Commission) in response to its recent Report and Order and Further Notice of Proposed Order Rulemaking (FCC 11-161, November 18, 2011, “ICC/USF Reform Order/FNPRM”). The FCC’s ICC/USF Reform Order/FNPRM requests comments on the potential represcription of a modified version of legacy universal service support for rate of return carriers.¹ Ms. Gately, Ms. Golding, and Mr. Blaszak erroneously argue that the Commission should represcribe an interstate rate of return that is lower than the

¹ ICC/USF Reform Order/FNPRM ¶ 1044.

currently authorized rate of 11.25%. I explain that their recommended reliance on cost of capital data obtained from a publicly-available web site is arbitrary, backward-looking, economically misleading, and explicitly inconsistent with the stated intended use of the data. The data do not provide useful, reliable insight into capital costs in the context of the current proceeding.

I also summarize the evidence provided in my previously-filed statement before the Commission (Statement of Randall S. Billingsley, January 18, 2012) that the weighted average cost of capital (WACC) for the average rural local exchange company (RLEC) is at least 11.48%. My analysis provides empirical evidence that contradicts the Ad Hoc Committee's recommendation that the Commission should decrease the authorized rate of return. Indeed, my findings indicate that, if changed at all, the Commission should increase the overall authorized rate of return above the current level of 11.25%.

As discussed in my previously-filed statement, my approach to estimating RLEC capital costs is consistent with the Commission's cost of capital estimation principles, which are stated in its Triennial Review Order and in the Verizon Arbitration Order.² The Ad Hoc Committee conducts no independent analysis of capital costs and makes no effort to

² In Re Review of the Section 251, Unbundling Obligations of Incumbent Local Exchange Carriers, First Report and Order on Remand and Further Notice of Proposed Rulemaking, FCC 03-36, released August, 21, 2003, hereinafter TRO. *In the Matter of Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc., and for Expedited Arbitration*, CC Docket No. 00-218, and *In the Matter of Petition of AT&T Communications of Virginia Inc., Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia Corporation Commission Regarding Interconnection Disputes With Verizon Virginia Inc.*, CC Docket No. 00-251, Memorandum Opinion and Order, DA 03-2738, released August 29, 2003, ¶90, hereinafter Verizon Arbitration Order.

relate their inadequate evidence to the Commission's previously-stated cost of capital estimation principles.

B. SUMMARY OF CONCLUSIONS

Q. What issues does your rebuttal focus on in the Ad Hoc Committee's comments and recommendations concerning the capital costs of rate of return carriers?

A. My rebuttal explains the errors and inconsistencies in Ms. Gately, Ms. Golding, and Mr. Blaszak's uncritical and misplaced reliance on the cost of capital data posted on Professor Aswath Damodaran's web site. The Ad Hoc Committee's errors in recommending rate of return carriers' capital costs include: 1) use of telecommunications companies that are not demonstrably comparable in risk to the average RLEC; 2) use of non-U.S. companies that are not comparable to the average RLEC; 3) failure to rely on an application of the capital asset pricing model (CAPM) that adjusts for the empirically-supported effect of small firm size on the cost of equity capital; 4) failure to provide balanced evidence on capital costs that is based on more than one cost of equity estimation methodology, and 5) application of data in the current proceeding that is inconsistent with its intended use. Further, the Ad Hoc Committee relies on data that are about one year old, which are backward- rather than appropriately forward-looking. These errors and inconsistencies explain why the Ad Hoc Committee recommends an unrealistically low overall cost of capital for rate of return carriers.

III. REBUTTAL OF AD HOC COMMITTEE COMMENTS AND RECOMMENDATIONS

A. USE OF TELECOMMUNICATIONS COMPANIES THAT ARE NOT

DEMONSTRABLY COMPARABLE IN RISK TO THE AVERAGE RLEC

Q. Where does the Ad Hoc Committee obtain the cost of capital data that it relies on and what justification do they provide for its use?

A. The Ad Hoc Committee relies on publicly-available data posted on the internet by Professor Aswath Damodaran of the Stern School of Business at New York University (Comments of the Ad Hoc Users Committee, January 18, 2012, p. 3).³ The estimates are based on the Value Line database of publicly-traded companies. Specifically, the Ad Hoc Committee focuses on the cost of capital estimates for the “telecom utility” sector (SIC 4810), which they say contained 28 telecommunications companies as of January of 2011. The Ad Hoc Committee also cites cost of capital estimates from the broader “telecom services” sector (SIC 4890), which includes “... the holding companies for the largest BOCs (AT&T, Verizon and Qwest), Sprint, and alternative providers like Vonage, Clearwire and Hughes Communications Inc.” (Comments of the Ad Hoc Users Committee, January 18, 2012, p. 5). Thus, being developed in January of 2011, the analysis uses data that are about one year old. Cost of capital estimates should use up-to-date market data in order to be forward-looking. However, the Ad Hoc Committee’s use of these older data makes their estimates backward-looking. Further, it is important to note that the Ad Hoc

³ The data are presented as “Cost of Capital by Sector” and are available at: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/wacc.htm.

Committee presents overall cost of capital estimates that are based on *after-tax* debt costs. It is commonplace in regulatory proceedings to use the *before-tax* cost of debt. The Ad Hoc Committee's recommended after-tax cost of capital is obviously lower than the associated before-tax cost of capital. Yet The Ad Hoc Committee's analysis and recommendations are too flawed to be reliable using either estimation approach.

The Ad Hoc Committee provides no meaningful justification for relying on the above-noted data source. They only casually observe the following (Comments of the Ad Hoc Users Committee, January 18, 2012, pp. 4-5):

The NYU/ Damodaran website offers the Commission easy access to the data necessary to develop a WACC for whatever target group of companies it chooses as surrogates. (p. 4) ... Use of the NYU/Stern School Compilation WACC results as the basis for setting the interstate rate of return is appealing because the compilation was not prepared specifically for this docket, and, thus, does not include assumption sets developed by any party that has a vested interest in the outcome of this proceeding. (p. 5)

Thus, the Ad Hoc Committee's above criteria for relying on this data source may be summarized as: 1) "easy access," and 2) the sample of firms used has not been specifically identified as relevant to the current proceeding. The Ad Hoc Committee passively accepts the listed sample of telecommunications firms to recommend RLEC capital costs without any critical evaluation or empirical support that these firms are comparable in risk to the average RLEC. This is in marked contrast to the application of an objective method for

demonstrating that firms are indeed comparable in risk to the average RLEC in my previously-filed statement before the Commission (Statement of Randall S. Billingsley, January 18, 2012, Billingsley Exhibit No. RSB-3, “Comparable Firm Identification Criteria and Methodology”).

Q. Are there any obvious examples that dramatically demonstrate that the average RLEC is not comparable to the telecommunications firm sector samples relied on by the Ad Hoc Committee?

A. Yes. Consider the “telecom utility” sector sample, which is implicitly presented by the Ad Hoc Committee as the closest proxy for the average RLEC. One of the most striking differences is how much more extensively diversified the “telecom utility” sector sample is than the average RLEC. Unlike the telecommunications firms in the Ad Hoc Committee’s sample, the average RLEC generates its primary revenues from providing local telephone service to rural customers and in providing wholesale access. Examples of the vastly greater diversification achieved by the Ad Hoc Committee’s sample of firms include Alaska Communications Systems Group’s ownership of two state-of-the-art undersea fiber optic cable systems and a wireless network covering 85 percent of Alaska’s population; ERF Wireless’ provision of secure broadband wireless and other broadband products and to banking and commercial clients and the oil and gas industry both nationally and internationally; IDT’s global presence with a 99.3% interest in Genie Energy; XO Holdings’ approximately one million miles of metro fiber and more than 90,000 customers that includes government agencies, telecommunications carriers and internet providers, and

Globalstar's provision of mobile voice and data via satellite worldwide. Thus, the Ad Hoc Committee's sample of firms is well-diversified across lines of business, customer segments, and geography. The great diversification exhibited by the Ad Hoc Committee's sample is consequently light years away from the average RLEC's focused provision of local exchange services to rural customers. This is a dramatic example of the lack of comparability between the Ad Hoc Committee's sample and the average RLEC. The Ad Hoc Committee's associated cost of capital recommendation is consequently extremely underestimated and unreliable.

Another example of the lack of comparability of the average RLEC and the Ad Hoc Committee's primary sample is their significantly different capital structures. The Ad Hoc Committee notes that their "telecom utility" sample has an average capital structure consisting of 45.7% debt and 54.7% equity (Comments of the Ad Hoc Users Committee, January 18, 2012, p. 4). Below I note that my previously-filed statement in this proceeding finds the capital structure of the average RLEC to consist of about 20.94% debt and 79.06% equity. Thus, the capital structures of the average RLEC and the Ad Hoc Committee's sample are not comparable at all. Indeed, the magnitude of the difference is both large and economically significant. The average RLEC's capital structure is much more equity-intensive than that of the Ad Hoc Committee's sample. And equity is much more expensive than debt financing. Thus, the difference in capital structures explains, in part, why the Ad Hoc Committee recommends such an unrealistically low cost of capital for rate of return carriers to the Commission.

B. USE OF NON-U.S. COMPANIES THAT ARE NOT COMPARABLE TO THE AVERAGE RLEC

Q. Is there anything unusual about the specific firms that the Ad Hoc Committee relies on in recommending RLEC capital costs to the Commission?

A. Yes. The Ad Hoc Committee uncritically assumes rather than proves that a group of telecommunications companies is comparable in risk to the average RLEC. A casual look at the list of “telecom utility” sector firms reveals that it includes Deutsche Telekom, Hellenic Telecom Org., Manitoba Telecom Services Inc., Telefonica SA, and Telefonos de Mexico (Comments of the Ad Hoc Users Committee, January 18, 2012, p. 3, footnote 7). The list of “telecom services” sector firms has an even broader non-U.S. representation. It is misguided to present non-U.S. companies as comparable in risk to U.S. companies in a U.S. regulatory proceeding. The Ad Hoc Committee implicitly argues that the “telecom utility” sector firm capital costs of Greek, German, Canadian, Spanish, and Mexican telephone companies should be used by the Commission in setting the authorized interstate return for U.S. rate of return carriers. Issues such as the inappropriateness of relying on European firms in general and Greek firms in particular during the European debt crisis go unconsidered by the Ad Hoc Committee.

In summary, the Ad Hoc Committee provides no critical evaluation, justification, nor

discussion of the appropriateness of the sample presented by Professor Damodaran in the current proceeding. Thus, it appears that the Ad Hoc Committee exercised no independent judgment whatsoever in presenting the sample to the Commission as an appropriate benchmark for assessing capital costs. Any firm is apparently welcomed by the Ad Hoc Committee to the sample for use in the current proceeding as long as it is on Professor Damodaran's list. Yet there is no evidence that this sample of firms is comparable in risk to the average RLEC.

C. FAILURE TO ADJUST THE CAPITAL ASSET PRICING MODEL ESTIMATES FOR THE SMALL FIRM EFFECT ON EQUITY CAPITAL COSTS

- Q. The vast majority of the RLECs that are the subject of the current Commission proceeding are not publicly-traded and have quite small capitalizations. How does the Ad Hoc Committee take into account the empirically-documented effect of small firm size on equity capital costs?**
- A. The Ad Hoc Committee ignores the impact of small firm size on equity capital costs. They only acknowledge that Professor Damodaran produces the cost of equity estimates for the indicated sample of telecommunications firms using the CAPM (Comments of the Ad Hoc Telecommunications Users Committee, January 18, 2012, p. 4, footnote 8). Professor Damodaran's web site shows that his application of the CAPM makes no adjustment for

small firm size.⁴ Ignoring the small firm effect significantly understates equity capital costs.

Q. Is there empirical evidence that it is appropriate to adjust the CAPM for the effect of small firm capitalization?

A. Yes, the supporting empirical research is abundant and it is common practice to adjust CAPM-based cost of equity estimates for the effect of small firm size. As discussed in my previously-filed statement before the Commission in this proceeding, the following observation by Morningstar summarizes the results of extensive financial research on the relationship between firm size and equity returns (Morningstar, Inc., *2010 Ibbotson Stocks, Bonds, Bills, and Inflation Valuation Yearbook*, Chicago, IL).

One of the most remarkable discoveries of modern finance is that of a relationship between firm size and return. The relationship cuts across the entire size spectrum but is most evident among smaller companies, which have higher returns on average than larger ones. Many studies have looked at the effect of firm size on return. (p. 85)

... The capital asset pricing model (CAPM) does not fully account for the higher returns of small company stocks. ... This return in excess of that predicted by CAPM increases as one moves from the largest companies in decile 1 to the smallest in decile 10. The excess return is especially pronounced for micro-cap stocks (deciles 9-10). This size-related phenomenon has prompted a revision to the CAPM, which includes a size premium. (p. 90)

⁴ See http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/variable.htm, "Variables Used in Data Set," "Cost of Equity," accessed February 2012).

... Small capitalization stocks are still considered riskier investments than large company stocks. Investors require an additional reward, in the form of additional return, to take on the added risk of an investment in small-capitalization stock. It is unlikely that in the future investors will require no compensation for taking on this additional risk. (p. 102).

Thus, there is extensive financial research that indicates that CAPM-based cost of equity estimates should be increased by a risk premium that compensates for the additional risk posed by small capitalization. Notwithstanding this evidence, the Ad Hoc Committee ignores the significant effect of small firm size in its recommendation to the Commission. They consequently recommend an underestimated cost of capital.

Q. Why is it particularly important to add a small firm risk premium in estimating the CAPM-based equity capital cost of the average RLEC?

- A. This firm size premium is particularly important to consider in this proceeding because the average RLEC faces significant risks due to its very small capitalization. RLECs face unique risks that massively larger telecommunications companies like Verizon and Sprint do not. These risks include less diversified lines of business, less geographic diversity, and very challenging access to financing. RLECs' capital costs should reflect a risk premium that adequately compensates for these greater business and financial risks in competitive markets. Otherwise, the RLECs will not be able to attract sufficient funds to continue providing essential local exchange services.

The prominent reliance of the average RLEC on equity funding also makes it particularly important to estimate the cost of equity adjusted to reflect the appropriate small firm risk premium. As noted below, the average RLEC's market-based capital structure consists of about 80% equity and only about 20% debt. Thus, the cost of equity capital is the primary determinant of the average RLEC's overall cost of capital. The Ad Hoc Committee's decision to ignore the appropriate small firm risk premium consequently significantly underestimates the average RLEC's cost of capital.

Q. Cost of equity capital estimation is used in the overall valuation of a firm. Is there evidence in the broader equity valuation literature that investors and professional valuation experts consider a small firm valuation effect?

A. Yes. While the small firm risk premium is important to consider in regulatory proceedings, it is also broadly used by valuation experts beyond the regulatory arena. This is particularly the case in valuing private firms that are not, by definition, publicly-traded. As expected, such firms are typically much smaller than the average publicly-traded firm. And the subjects of the current proceeding before the Commission include RLECs, which are very small on average. The evidence on the magnitude of the valuation discounts associated with small firms is consequently quite relevant in the current proceeding. Indeed, the findings on valuation discounts for firms with limited marketability and/or liquidity are consistent with equity capital costs increasing as firm size declines.

Consider the extensive evidence cited in Pratt and Niculita's well-regarded book on

valuing a business.⁵ They explain that it is common for equity values to be substantially discounted for the illiquidity and/or lack of marketability that characterize small, private companies. For example, Pratt and Niculita discuss two types of evidence on marketability discounts. The first looks at data on restricted stocks, which are public company stocks that are restricted from trading on the open market for a specific period of time. The difference in the prices of the restricted and otherwise comparable publicly-traded stocks provides an estimate of the value discount resulting from limited marketability. Pratt and Niculita cite numerous studies that find the average price discounts associated with restricted stocks to be between 13% and 45% (see p. 431). The second approach studies the relationship between the prices at which companies were initially offered to the public (IPO prices) and the prices at which the latest private transactions occurred in the months prior to the given IPO. Pratt and Niculita indicate that a sample of hundreds of such transactions over a 30 year period exhibits discounts from about 40% to 72% under different market conditions even after eliminating outliers (see p. 438). The magnitude of the valuation discount for the lack of marketability provides a sense of why small firms should have a risk premium added to their equity costs. The Ad Hoc Committee's failure to consider the small firm risk premium implicitly argues that small firms like the average RLEC are fully marketable and liquid even though most all of them are private and therefore are not publicly-traded. This is obviously not the case.

Below I summarize the evidence provided in my previously-filed statement concerning the

⁵ Pratt, Shannon P., and Niculita, Alina V. *Valuing a Business: The Analysis and Appraisal of Closely Held Companies* (New York: McGraw-Hill, 2008, 5th edition).

appropriate small firm risk premium that should be added to the CAPM-based cost of equity for the average RLEC.

D. FAILURE TO PROVIDE EVIDENCE BASED ON MORE THAN ONE COST OF EQUITY ESTIMATION METHODOLOGY

Q. The Ad Hoc Committee relies only on the CAPM method of estimating the cost of equity for rate of return carriers. Why is it important to use more than one method in producing such an estimate?

A. Different cost of equity estimation methods have different underlying assumptions and implementation approaches that could affect their results. It is consequently important to use more than one approach so that analysts and the Commission can gain insight into the sensitivity of the estimates to those varying assumptions and implementation approaches. Multiple perspectives afford the opportunity to corroborate evidence and provide insight into the reliability of the resulting recommendation.

Unfortunately, the Ad Hoc Committee only relies on the results produced by an incorrectly applied CAPM. As discussed above, the CAPM is applied to a group of firms that are not demonstrably comparable in risk to the average RLEC and the small firm risk premium adjustment is not made. In contrast to the Ad Hoc Committee, my previously-filed statement includes evidence produced by a firm size-adjusted CAPM *and* by a DCF model. Further, the reasonableness of these cost of equity estimates is corroborated

using an estimate of the average cost of equity for the firms in the S&P 500 index. As discussed above, this approach is consistent with the cost of capital principles espoused by the Commission in the Triennial Review Order and in the Verizon Arbitration Order. The Ad Hoc Committee's cost of equity estimates are unreliable and devoid of any additional supporting complementary or supplementary analysis.

E. APPLICATION OF DATA INCONSISTENT WITH INTENDED USE

Q. Is the Ad Hoc Committee's reliance on Professor Damodaran's cost of capital data consistent with its intended use?

A. No, it is not. Professor Damodaran makes the following observations that further confirm the inappropriateness of the Ad Hoc Committee's use of his data in this proceeding:⁶

I do know that this data ends up in the legal arena more often than it should. If you are using my data from a prior year to back up your position or repudiate your opponent[s] in a court of law, please leave me (personally) out of that food fight. While I stand behind my data, it was never my intent to use it for that purpose. In fact, I don't put much weight on two factors that the legal system values, precedence and consistency. ... Finally, this data was never meant for public policy debates.

Professor Damodaran clearly states that his data "ends up in the legal arena more often

⁶ "Bio and Mission Statement," "Data: History, Thoughts, and Caveats," Section 5, "Use for Data," http://people.stern.nyu.edu/adamodar/New_Home_Page/datacaveat.htm, accessed February 2012.

than it should” and asks to be left out of that practice. It is reasonable to infer that Professor Damodaran does not intend for his data to be used in situations such as the current regulatory proceeding before the Commission. This is substantiated by Professor Damodaran’s assertion that these data were “... never meant for public policy debates.” The Ad Hoc Committee consequently relies on this data source even though the application explicitly contradicts Professor Damodaran’s intended use of his data by others. Thus, the Ad Hoc Committee has arbitrarily decided to rely on a sample of telecommunications firms chosen by another party without critically evaluating the appropriateness of the sample or considering the stated intended use of it.

IV. SUMMARY OF EVIDENCE ON RLEC CAPITAL COSTS IN PREVIOUSLY-FILED STATEMENT

Q. What capital structure and component costs of capital did you develop in your previously-filed statement for use in estimating the average RLEC’s overall cost of capital?

A. In my previously-filed statement (Statement of Randall S. Billingsley, January 18, 2012), I identify a group of proxy firms that is demonstrably comparable in risk to the average RLEC. This proxy group is used because there are no publicly-traded firms solely providing rural local exchange services. Using the average debt rating of the proxy group of firms, the pre-tax cost of debt is 4.42%. A discounted cash flow (DCF) model produces a cost of

equity of 12.55% while the CAPM produces a cost of equity of 12.62% unadjusted for firm size. Systematic analysis of the relationship between the proxy group and the average RLEC indicates that an appropriate small firm risk premium is 1.53%, which implies that the size-adjusted cost of equity under the CAPM approach is 14.15%. Thus, the DCF and CAPM approaches support an average cost of equity of 13.35%. The reasonableness of this result is corroborated by evidence that the expectations-based cost of equity for the average company in the S&P 500 index is 13.84%.

As shown in Billingsley Exhibit No. RSB-5 of my previously-filed statement, the average market value-based capital structure for the portfolio of companies comparable in risk to the average RLEC is about 20.94% debt and 79.06% equity. Thus, the data and estimates in my analysis indicate that the average RLEC's overall pre-tax cost of capital is at least 11.48%.

V. SUMMARY OF CONCLUSIONS

Q. Would you please summarize your critical evaluation of the comments filed by the Ad Hoc Committee in this proceeding?

A. Yes. My critical evaluation of the comments submitted by the Ad Hoc Committee finds their recommended reliance on cost of capital data obtained from a publicly-available web site to be arbitrary, backward-looking, economically misleading, and explicitly inconsistent with the stated intended use of the data. Their recommendation that the

Commission decrease the authorized interstate rate of return below its current level of 11.25% is not supported by reliable evidence.

The Ad Hoc Committee's errors in recommending rate of return carriers' cost of capital include: 1) use of telecommunications companies that are not demonstrably comparable in risk to the average RLEC; 2) use of non-U.S. companies that are not comparable to the average RLEC; 3) failure to rely on an application of the CAPM that adjusts for the empirically supported effect of small firm size on the cost of equity capital; 4) failure to provide balanced evidence on capital costs that is based on more than one cost of equity estimation methodology, and 5) application of data in the current proceeding that is inconsistent with its intended use. In addition, the Ad Hoc Committee relies on data that are about one year old, which are backward- rather than forward-looking. These numerous errors and inconsistencies explain why the Ad Hoc Committee recommends such an unrealistically low cost of capital for rate of return carriers. My empirical analysis indicates that the overall cost of capital for the average RLEC is at least 11.48%. Thus, my findings indicate that, if changed at all, the Commission should increase the overall authorized rate of return above the current level of 11.25%.

Q. Does this conclude your statement?

A. Yes, it does.

Appendix B

The Commission's Proposed Use of Quantile Models to Limit Recovery of Capital and Operations Expenses From the Federal High-Cost Universal Service Fund

Rural Associations' Further Analysis

Appendix B

The Commission's Proposed Use of Quantile Models to Limit Recovery of Capital and Operations Expenses From the Federal High-Cost Universal Service Fund

Rural Associations' Further Analysis

Executive Summary

In their initial comments submitted in this proceeding on January 18, 2012, the Rural Associations provided a paper analyzing several aspects of the quantile regression models adopted by the Commission in its November 18, 2011, USF/ICC Reform *Order and FNPRM*.¹ The Rural Associations' initial analysis showed that use of the models would produce arbitrary reductions in support levels for rural rate-of-return local exchange carriers (RLECs), and in some cases produce results that run directly contrary to the Commission's stated goals. Identified flaws included:

1. Poor mapping of study area boundaries;
2. Poor mapping of census blocks to study areas;
3. Flaws in use of accounting data;
4. Irrational application of limits separately to each account;
5. Lack of statistical significance of most variables.

Comments filed by numerous other parties in this proceeding, including individual RLECs potentially affected by the models, echo these concerns and provide specific examples of situations where the models would produce irrational results. The following discussion summarizes key points made by commenters and provides additional analyses of the effects of flaws identified in the record.

A. Results Produced by the Commission's Models Do Not Bear Any Rational Relationship to the Commission's Stated Goal of Improving "Efficiency" in Fund Distributions.

The *Order and FNPRM* repeatedly asserts that a key goal of the Commission's USF and ICC reforms is to improve "efficiency" in fund distribution and ratemaking.² Some inefficiencies are indeed identified and addressed in the Order, including mismatch of rates and

¹ *Connect America Fund*, WC Docket No. 10-90, *A National Broadband Plan for Our Future*, GN Docket No. 09-51, *Establishing Just and Reasonable Rates for Local Exchange Carriers*, WC Docket No. 07-135, *High-Cost Universal Service Support*, WC Docket No. 05-337, *Developing an Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, *Lifeline and Link-Up*, WC Docket No. 03-109, *Universal Service – Mobility Fund*, WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161 (rel. Nov. 18, 2011) (*Order and FNPRM*).

² In fact, the Commission cites "efficiency" more than 250 times in the Order and FNPRM, on average more than once every three pages.

costs in access stimulation arrangements, support to CLECs based on the costs of the incumbent carrier rather than their own costs, and access rate arbitrage. Curing these inefficiencies is a valuable aim of the Order. In addition, the Commission announces that it seeks to encourage efficient interconnection based on Internet Protocol transmission, also a laudable objective. For the most part, however, claims of improved efficiency associated with USF and ICC reform are made without explanation or support, and in some cases relate to provisions that actually undermine efficient distribution of support funds.

In the case of its proposed use of quantile regression models to limit support for operational and capital expenditures, the claims of improved efficiency appear wholly unjustified. Efficiency is obtained when the mechanisms of cost recovery, including any intercarrier charges, end user charges and USF support funds, provide amounts equal to the economic cost of providing service. For its limitation models to be considered rational, the Commission must show its chosen methods actually identify expenditures that exceed efficient levels. The *Order*, however, provides no stated basis for the Commission's assumption that costs exceeding the 90th percentile have been incurred inefficiently.³ As several commenters point out, the Commission's choice of the 90th percentile is thus inherently arbitrary.

The comments also demonstrate that the Commission's models irrationally limit cost recovery without regard to whether costs are reasonably incurred to provide service. For example, many commenters provide examples of situations in which costs may exceed the 90th percentile yet remain reasonable for those given situations, including instances where RLECs have specifically deployed facilities to support broadband service.⁴

Other commenters argue the proposed quantile regression approach is irrational in that it does not take into account factors that actually drive the cost of service in rural areas. These include study area characteristics such as customer density, cable route miles, topography, geology, and loop lengths.⁵ Any useable model must also include measures of soil type and terrain, factors not adequately accounted for by broad measures of land area, count of census blocks and percent water used in the model.⁶

Other commenters further explain that "efficient" models would only consider limiting costs that carriers can control, and then only in ways that meet the statutory standard requiring sufficient and predictable support.⁷ In this regard, Moss Adams, as well as the Rural Associations, explained that a model limiting depreciation expense is inappropriate, as this

³ *E.g.*, Alexicon at 14-15; TCA at 8; Rural Telephone Service Company at 10; NRIC at 51. The Commission does state that costs identified as excessive by the models "may raise questions," *Order*, Appendix H ¶ 12, but provides no indication as to what those questions might be, or how limiting costs above the 90th percentile actually answers them.

⁴ *E.g.*, Carriers for Progress in Rural America at 6; Alexicon at 14-15; TCA at 8-9.

⁵ GVNW at 5; Accipiter at 15-16; Moss Adams at 11; WITA at 3-8; Copper Valley at 8; Blooston at 2-7; Central Texas 2-6; Carriers for Progress in Rural America at 3,10; Sacred Wind at 1,3; Guadalupe Valley at 3; Blooston at 7; Section E Rural Carriers at 5-7.

⁶ *E.g.*, Scio at 2; Cambridge at 2; Eagle at 4; NRIC at 13, 22, 24, 27.

⁷ *E.g.*, NRIC at 8; Accipiter at 19.

expense is an obligation of the carrier for prior investment, and must be accounted for consistently with related plant.⁸

Because they fail to account for the nature of where services are provided, the fact that costs may reasonably be expected to be higher in some locations than in others and are affected by factors outside the carrier's control, the Commission's models cannot be said to promote efficiency, but instead merely accomplish arbitrary reductions in support.

B. The Data Used to Develop and Apply the Models are Substantially Inaccurate. Correcting These Errors Will, However, Potentially Cause Model Coefficients and Results to Change Dramatically, Undermining Claims the Models are “Robust.”

The Rural Associations pointed out several areas where the data underlying the Commission's models were inaccurate. Other commenters also report that the Commission used substantially inaccurate data in developing its models.⁹ In one case, at a carrier's request, the Associations used a serving area map and mapping software to determine that the Commission used 260.6 square miles as the carrier's land area, when in fact it serves 5800.6 square miles.

Minor individual data errors in any modeling effort can be expected, and should not ordinarily be a cause for significant concern if the resulting models are “robust.” In statistical regression models, the term “robustness” refers to modeling methods which, considering the structure of relationships in the underlying data, are not unduly sensitive to outliers or individual data values. As a property of a statistical regression model, robustness is the polar opposite of volatility. The Commission observes in this regard that it chose quantile regression because the alternative, ordinary least squares regression, is not robust with regards to estimation of data quantiles.¹⁰

As a way of testing the robustness of the Commission's models, the Rural Associations sought to measure the impacts of substituting corrected service territory data for the single company identified above on both the models and resulting support payments. The results demonstrate conclusively the Commission's models are not, in fact, robust, but instead are highly unstable.

The analysis used actual boundaries of the area served by the particular carrier and mapped the corrected boundaries to census blocks using the methods described in Appendix H of the Order. Values of census variables for this carrier corresponding to its corrected boundary were then substituted for the data released by the Commission for this carrier, and quantile models including updated data for this one study area were recreated, again using the methods described in Appendix H.

A “robust” estimation method would see very little change in the models in response to a data correction for one out of 720 observations. Such was not the case. Using for this test the model for Algorithm Step 17 (Depreciation and Amortization Expense for Cable and Wire Facilities Category 1, one of the major components of loop cost), the Rural Associations found that this single data update would have drastic effects on many of the coefficients of the model, as

⁸ Moss Adams at 15-18; Rural Associations at 68-70.

⁹ *E.g.*, Penasco Valley at 2; Moss Adams at 9-11; Calaveras at 6.

¹⁰ *Order and FNPRM* ¶ 1082.

shown in the following table. For two of the variables, not only are the coefficient changes very large, but even the signs of the coefficients change.

Effect of One Data Correction on AL 17 Model Coefficients			
	Appendix H Coefficients	Revised Coefficients	% Change
Loops	0.8921	0.8637	-3.2%
Households - Non Urban	-0.3187	-0.2978	-6.6%
Households - Urban Cluster	0.1614	0.1811	12.2%
Households - Urban Area	-0.0520	0.0438	-184.2%
Per Cent Water	0.5767	0.5868	1.8%
Land Area - Non Urban	0.1170	0.1268	8.4%
Land Area - Urban Cluster	-0.0146	-0.0106	-27.4%
Land Area - Urban Area	0.1691	0.0716	-57.7%
Census Blocks - Non Urban	0.1764	0.1765	0.1%
Census Blocks - Urban Cluster	-0.2507	-0.2787	11.2%
Census Blocks - Urban Area	0.0383	-0.0389	-201.6%
Intercept	7.2690	7.2580	-0.2%

For the 67 study areas limited by the Commission's model for AL17, use of the revised coefficients would change allowable costs on average by 3%. While this percentage may seem small, such an impact resulting from the change of a single data value is extraordinary for a supposedly "robust" model. Furthermore, impacts on some individual carriers are much larger. Allowable costs of the study area with the data change would increase by more than 12%, from \$1.4M to \$1.6M, reflecting the data change and the model update. In addition, three other study areas would experience limit differences exceeding 20%, while seven others would experience differences exceeding 3%, notwithstanding that none of these included a single data change.

This example makes clear the Commission's quantile models are not robust for their proposed purpose. Indeed, considering that correcting data for one study area produces impacts on other companies that are even larger than the impact on the company with the corrected data, the correct adjective for these models would appear to be "volatile," not robust.

To determine the sensitivity of support payments to this data change, the Rural Associations updated all of the Commission's quantile models to reflect this new data. Model results were aggregated to an overall cost for each study area, again using the methods of Appendix H of the Order. Support payments to each carrier were then calculated based on these updated costs using the expense adjustment algorithm specified in the Commission's Part 36 High Cost Loop Support rules. Updated payments were compared to payments that would result from applying the Commission's models based on data that did not include this data correction.

This comparison showed that 130 out of 135 study areas whose costs were capped by the Algorithm Step 17 Quantile Model realize support payment changes as a result of a data change for one single study area. Payment changes are significantly distributed in positive and negative values, and in one case were as large as 40%. Thus, it appears any data correction, including corrections to mapping data wholly outside the telephone company's control, can significantly influence payments to a large group of companies.

The example also reveals that the association of a study area with a group of other similarly-situated study areas is dynamic. While no aspect of model development or application actually identifies a study area's "look-alike" group, that group must have changed in this case, as other unrelated study areas suffer significant increases or decreases in limits as a result.¹¹ This suggests that the identity of a look-alike group is intolerably sensitive to data changes.

Finally, this example demonstrates beyond all doubt that no quantile model can be successfully employed until data quality is adequately researched and validated. The unpredictability of impacts due to data correction impacts by other carriers, a concern of focus by many commenters, would simply be too great and would seriously undermine a carrier's ability to conduct its business.

C. The Commission's Selection of a 90th Percentile Threshold Limitation Produces Unintended and Irrational Consequences.

As noted above, commenters express several concerns regarding the Commission's selection of a 90th percentile limitation threshold, including questions as to whether the threshold bears any rational relationship with its intended goal of identifying excessive or inefficient expenditures.

The Rural Associations further explained in comments that the Commission's use of eleven separate caps in the models will not encourage efficiency and may create unintended consequences.¹² Dr. Koenker advised in this regard that proper use of the quantile models requires that the joint distribution of quantiles associated with each of the eleven models proposed by the Commission be taken into effect.¹³

The following discussion provides an additional analysis demonstrating that the Commission's use of a 90th percentile threshold produces results that differ substantially from those apparently intended by the Commission. That is, instead of limiting expenditures below the 90th percentile, the models are significantly more restrictive. Correcting this error would require establishment of a much higher percentile threshold, but doing so would not resolve other problems identified with respect to the models.

We start with a note about probability distributions, in this case the simple binomial distribution with probability of belonging to the target set equal to 0.1. Consider the target set to be the study areas with costs exceeding the 90% quantile. The probability of a member of the population belonging to the target set is 0.1, while the probability of not belonging is 0.9.

Now consider multiple binomial probabilities, one for each of the quantile models. Considered individually, a member of the population has the same probability (0.1) of belonging to the target set in each model. According to the laws of probability, if two target sets are

¹¹ GVNW at 11-12; Carriers for Progress in Rural America at 4; Alexicon at 11; Calaveras at 7; Copper Valley at 8.

¹² Rural Associations at 68-69, Appendix D at 12. *See also* NRIC at 51-53, 55-59.

¹³ Rural Associations, Appendix E at 5. Other commenters, notably Moss Adams, point out that the Commission's modeling methods produce coefficients of some variables with illogical signs, an outcome common when a model includes independent variables highly correlated with each other, or weakly correlated with the dependent variable. Moss Adams at 13. *See also* NRIC at 43-44; GVNW at 4, 12-13; Alexicon at 12.

independent, the probability of a population member belonging to one model's target set is independent of whether it belongs to the target set of the other model. In this case, the probability that the member belongs to both target sets is the product of probabilities ($0.1 \times 0.1 = 0.01$).

Dr. Koenker points out these events may not be independent.¹⁴ In fact they are not. For example, commenters have noted that many companies with high investment in Cable and Wire Facilities would be expected to have offsetting low investment in Central Office Equipment, and *vice versa*.¹⁵ Nevertheless, for the purpose of this exercise, a simplifying assumption can be made that the events are independent. It is then possible to calculate the probability that a population member belongs to any two of the target sets of the eleven models, using the formula for binomial probabilities:

$$\begin{aligned} & \text{Probability}(\text{population member belongs to exactly 2 target sets}) \\ &= \left(\frac{11!}{2! \times (11 - 2)!} \right) \times p^2 \times (1 - p)^{(11-2)} \end{aligned}$$

The exclamation point in this equation designates the factorial operator; i.e., $11! = 11 \times 10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$. The symbol p designates the probability of a population member belonging to any one of the eleven target sets (10%, for example). Substituting target set occurrences from 1 to 11, for the number 2 in this equation, we can calculate the probability that a member belongs to any particular number of target sets. The sum of these outcomes is the probability that the member belongs to any one or more of the target sets. In the current instance, this equals the probability the study area is limited by one or more of the quantile models.

If the events are independent, and if a probability of 0.1 (90% quantile) is used, this calculation yields an overall probability of a study area being limited by one or more models equal to 68.6%. As the actual percent of study areas limited by one or more of the Commission's models was 41%,¹⁶ it is evident that the probabilities of target events of the Commission's models are conditional, not independent. Indeed, the models limited 60% of the number of study areas that would have been affected if the events were independent.

Regardless, we proceed with this analysis, working backward to find the quantile that could be used for each model separately, which would produce an overall probability of 10% that a study area would be limited by one or more models. That calculation yields a quantile threshold of 0.9905. If we adjust this threshold to reflect the 60% conditional probability effect described in the preceding paragraph, we obtain a value of 0.9836, the quantile model threshold which could be expected to identify the ten per cent of cases with the highest cost.

This analysis shows that a substantially different quantile threshold would be needed to target 10% of study areas by one or more quantile models. Merely changing the threshold does little to cure the models, however, which will continue to suffer from the many ills described in comments and summarized above. For example, it would be necessary to have a way to measure

¹⁴ Rural Associations, Appendix E at 4-7.

¹⁵ E.g., GVNW at 13-15; Accipiter at 18; Moss Adams at 14-16; Alexicon at 11.

¹⁶ Rural Associations, Appendix D at 18.

whether a carrier who exceeds the threshold of one model has lower costs in another account for which these higher costs are an offset.¹⁷

D. The Commission's Regression Methods Are Not Consistent With the Commission's Own Accounting and Cost Allocation Rules.

Several commenters point out the models do not achieve the Commission's stated intent of limiting capital expenses (outlays in the current year for new plant), but rather limit recovery on all investment, no matter when the investment costs were incurred.¹⁸ Commenters argue that legally and economically effective limits would instead address capital expenses as the Commission's Order claims, which are investment costs incurred in a current year.¹⁹

Other commenters note irregularities introduced by employing models which limit certain accounts without considering how those limits will affect other aspects of overall loop cost calculations. One of the most serious flaws in this regard is the failure to impose parallel limits on depreciation reserves and telephone plant, which burdens carriers with unfunded reserve obligations while precluding return on the corresponding plant.²⁰

Commenters further explain that models designed to limit certain loop cost algorithm steps do not work with cost allocations underlying other algorithm steps. Algorithm steps are a sequence of cost allocations prescribed by Commission rules for the calculation of a carrier's loop cost. Because the Commission's models do not apply consistently throughout these calculations, they produce incorrect results.²¹

E. The Models Will Cause Support Levels to Change in Unpredictable Ways, Undermining the Commission's Broadband Objectives.

The Rural Associations demonstrated in their initial comments that year-to-year changes in the models are likely to be significant.²² Many commenters point out the dynamic nature of the caps will increase uncertainty for RLECs to the extent that rational investors would be reluctant

¹⁷ These concerns lead some commenters to suggest that, if models are to be used at all, they be based on study area overall cost per loop, not on costs calculated in separate algorithm steps. *See, e.g.*, Rural Associations at 68-70; NRIC at 51, 55; Penasco Valley at 7-8; Eagle at 7-8; Scio at 4-5.

¹⁸ *E.g.*, Rural Telephone Service at 8; TCA at 5; Copper Valley Telephone at 8; Blooston Rural Broadband Carriers at 4; Blue Valley Telephone at 2-3. It is expected this issue will be raised in the 10th Circuit Court case addressing Petitions for Review of the USF and ICC Reform Order.

¹⁹ *E.g.*, Rural Associations at 67; TCA at 6; Carriers for Progress in Rural America at 10; WITA at 9; Blue Valley at 3; Alexicon at 11-13.

²⁰ Rural Associations at 68; Moss Adams at 16-17, Calaveras at 8; Central Texas at 8; Chillicothe at 6; Copper Valley at 7.

²¹ Penasco Valley at 3-6; Scio at 2-4; Cambridge at 3-6; Eagle at 4-5; Moss Adams at 15-18; Central Texas at 10.

²² Rural Associations at 70-71. *See also* Accipiter at 16, 22; NRIC at 11.

to finance the deployment of broadband facilities.²³ The following analysis provides further evidence of this danger.

The exhibit below displays quantile model coefficients for Algorithm Step 1 (Cable and Wire Facilities Category 1) for four consecutive years. This exhibit simulates quantile model changes that can be expected when the Commission updates its models in each of the coming four years, as it has announced it plans to do.²⁴

The Commission's updates will necessarily have new data available from RLEC high cost loop data submissions each year, but will not have new census data except every ten years. Correspondingly, the models in this exhibit all use the same census data, but update the cost and loop count data based on high cost loop data submissions. The four consecutive years used here to illustrate potential effects are from the 2011 payment year, and each of the preceding three years.

Quantile Model Stability Year-to-Year
Cable & Wire Facilities Category 1 (AS 1)

Variable	Coefficients				Change from Year to 2011		
	2008	2009	2010	2011	2008	2009	2010
Loops	0.836	0.893	0.856	0.885	5.8%	-0.9%	3.3%
Housing Units – NU	-0.218	-0.297	-0.295	-0.324	48.9%	9.1%	9.8%
Housing Units – UC	0.092	0.114	0.165	0.166	81.9%	46.2%	0.8%
Housing Units – UA	0.044	0.037	0.037	-0.036	-181.1%	-196.2%	-197.5%
Per Cent Water	0.528	0.848	0.817	0.866	64.0%	2.2%	6.0%
Land Area – NU	0.155	0.167	0.166	0.163	5.2%	-2.6%	-2.1%
Land Area – UC	-0.062	0.025	-0.014	0.007	-110.5%	-73.6%	-145.5%
Land Area – UA	0.105	0.140	0.045	-0.101	-195.6%	-172.0%	-325.8%
Census Blocks – NU	0.079	0.116	0.123	0.134	71.0%	15.3%	8.8%
Census Blocks – UC	-0.120	-0.183	-0.242	-0.252	110.4%	37.7%	4.2%
Census Blocks – UA	-0.083	-0.099	-0.033	0.160	-292.1%	-260.9%	-589.6%
Intercept	10.017	9.976	10.338	10.378	3.6%	4.0%	0.4%

This Exhibit has three parts. First, it shows the names of each of the independent variables used by the Commission's models. Second, it shows coefficients derived by quantile regression corresponding to each of these variables, based on data for each year. Third, it shows the difference between the 2011 coefficients and those of each prior year.

Two alarming results are apparent in this exhibit: Signs of coefficients change from year to year, and year-to-year variance in coefficient magnitude is huge.

Consistent signs in variables are critical. For a variable to be useful in a statistical model, it is not sufficient that it be measured accurately and have statistical significance: It must also contribute correctly to the estimate of the dependent variable. It would be an absurd

²³ E.g., TCA at 5-6; Moss Adams at 7-8; NRIC at 33-37.

²⁴ *Order and FNPRM* ¶ 214.

contradiction to the law of gravity, for example, to adopt a model in which mass of an object was negatively related to its gravitational attraction to another object. Much the same, it would be a grievous error to base universal service support on a statistical model which had a counter-logical relationship between variables. But this precise outcome occurs here, in the changing sign of coefficients of Urban Area Housing Units, Urban Cluster Land Area and Urban Area Census Blocks.

For example, a study area with the following very plausible demographic data would experience a 46% decrease in its limit applied to Category 1 Cable and Wire Facilities investment merely because of the change from the positive coefficient for Urban Area Housing Units in 2010 to the negative coefficient in 2011, with all data and other coefficients held constant. Demographic data for this test included 10,000 loops serving 5,000 urban area housing units and 1,000 non urban housing units, spread across 25 urban area census blocks and 5 non-urban census blocks, with 100 square miles of urban area and 2,000 square miles of non-urban area, and 10% water. Using the 2010 data and coefficients, the limit would be \$41.51 million, which would be increased to \$77.31 million merely by substituting the 2011 housing unit coefficient. Such model impacts make clear their unstable and arbitrary nature.

Regarding year-to-year variance in models, a mere five per cent reduction in cost of a carrier can translate to a proportionately much larger reduction in support payments because of the threshold used in payment calculations. We see from the exhibit above that only the intercept of the model has year-to-year stability within 5%. Loops and Non Urban Land Area are next in order of stability. For all other variables, the year-to-year changes in coefficients are far more dramatic. Changes in support produced by such formulas would be financially terrifying to affected carriers and their lenders.

Changes in companies affected by these models are significant as well. Based on the 2011 model, for example, 67 study areas would have limitations. Based on the 2010 model, 53 of these study areas would have been limited, and 12 additional study areas not limited by the 2011 model.

This exhibit displays effects on just one of the eleven models proposed by the Commission. The selection of Algorithm Step 1 in this exhibit is very significant, however, as that is the single largest contributor to overall loop cost. Given the effects of data changes on models for this data element, and the relative stability of Cable and Wire Facility Investment growth over time compared to other accounts, one can expect year-to-year changes in other models to be even greater.

Furthermore, the very significant year-to-year impacts shown above tell only half of the story. These models reflect updates to cost and loop data, but do not reflect updates to census data. Considering the shifts of population and demographics occurring over the years, and considering the length of time between census data releases, impacts on models of census data changes are likely to dwarf impacts of annual cost data updates.²⁵

F. Conclusion

It is readily apparent the Commission's proposed regression models cannot rationally be employed as a means of limiting capital and operating expenses. The Rural Associations do not

²⁵ Normally census data is updated every ten years, but may have interim releases if the Bureau of Census deems it necessary. *See* Accipiter at 22.

suggest that no method can or should be employed to assure that support is distributed efficiently, but it is clear the quantile methods chosen by the Commission are unsuited for this purpose and must be abandoned.

The Associations continue to recommend the Commission instead adopt the capital and operating expense limitations proposed in the RLEC Plan. Whatever methods the Commission adopts to limit support for capital and operational expenses, however, the Commission must tie the use of such methods to the Act's requirement that support be both sufficient and predictable. For reasons shown above and in the comments, the proposed use of quantile regression analysis fails to accomplish this end.

CERTIFICATE OF SERVICE

I, Brian Ford, hereby certify that a copy of the reply comments of the Rural Associations was sent on this, the 17th day of February, 2012 by via electronic mail, to those listed on the attached sheet.

By: /s/ Brian J. Ford
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