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EXECUTIVE SUMMARY

NTCA—The Rural Broadband Association (NTCA) supports significant accountability in the use of universal service fund (USF) support. NTCA members are based in rural America, and recognize the importance of ensuring USF support is used to deploy and then sustain quality voice and broadband services in high-cost areas where the business case is otherwise lacking. Particularly as the Commission undertakes new means of distributing USF support, validation of whether operators are delivering upon their promises to engineer a network capable of meeting professed coverage claims and capabilities will be essential to ensure effective use of resources and benefits that accrue to the rural consumers and businesses in need of connectivity.

Nonetheless, NTCA seeks review of certain aspects of the requirements adopted for high-cost support recipients to test the performance of networks built leveraging such support. In the first instance, the newly-adopted regulations require providers to test the performance of network components beyond the reasonable control of USF recipients. NTCA also notes that equipment that would enable testing to be undertaken in an economically reasonable and administratively efficient manner is not yet widely available from a variety of vendors in the market, and therefore urges the Commission to defer implementation of any requirements until a reasonable period after such equipment is further developed and widely available. Finally, the extent of testing must also be proportional to the size of the provider: small companies should not be required to test as many locations as larger providers.

In addition to portions of the order that should be revised, NTCA also notes aspects that warrant clarification, including the relationship between subscribed, advertised and required speeds. NTCA also requests the Commission to confirm which rural providers are required to participate, and to clarify that the same pool of test locations can be used for both speed and latency testing.

to meet consumers' needs now and into the future. However, targeted changes to and clarifications of the *Measurements Order* are warranted to ensure that the requirements are consistent with the law and more reasonable and straightforward for providers of all sizes. NTCA therefore requests modification and/or clarification, as applicable, of, *inter alia*, (i) requirements for Internet Service Providers (ISPs) to test portions of the network over which they have no control; (ii) testing obligations in the absence of suitable equipment in the marketplace; (iii) the number of locations to be tested; (iv) which carriers are required to test; and, (v) composition of the sample pools.

II. DISCUSSION.

A. OBLIGATIONS TO TEST TO FCC-DESIGNATED IXPS ARE INCONSISTENT WITH THE LAW AND THE MANNER IN WHICH RURAL ISPs OBTAIN CONNECTIVITY.

1. Testing Should Not Be Required Beyond the Next-Tier ISP From Which USF Recipients Procure Capacity Directly.

The rules adopted upon delegated authority in the *Measurements Order* require recipients of high-cost USF support to test to Commission-designated Internet Exchange Points (IXPs), notwithstanding that the IXP is beyond the supported network and may also likely be in many cases beyond the rural provider's network and/or reasonable control. This obligation is inconsistent with the law and public policy, and thus warrants revision pursuant to the Commission's rules. In the first instance, this structure unreasonably imposes liability for actions and conditions that are beyond the provider's control; second, it relies on incomplete assumptions regarding rural providers' connections to the internet backbone; and third, by applying obligations to portions of the network that are not supported by USF resources, it runs afoul of the sufficiency requirements of the Communications Act of 1934, as amended.

In previously urging the Wireless Telecommunications and Wireline Competition Bureaus (the Bureaus) to not impose obligations that would require rural providers to vouch for

the performance of network segments that are beyond their control, NTCA explained that rural carriers must generally rely on middle mile facilities, and cited technical papers previously published by the Commission itself to illustrate “the role of severable parties in the provision of broadband.”⁵ NTCA explained that notwithstanding a rural provider's purchase of adequate capacity, performance ultimately relies upon circumstances and conditions beyond its control.⁶ Other parties, as well, urged the Commission to recognize how providers obtain, control, and provide capacity on networks.⁷ Rejecting such concerns, the Bureaus assert that a carrier can “influence the quality of transport purchased and can negotiate with the transport provider for a level of service that will enable it to meet the Commission's performance requirements. This is true for both price cap carriers and smaller carriers.”⁸ In response, NTCA submits:

- (1) Small providers fundamentally lack the bargaining power the *Measurements Order* conjectures they possess, and there is simply no evidentiary basis whatsoever for the summary conclusion contained within the *Measurements Order* that smaller operators can dictate terms like service quality in dealing with much larger national or even regional transport providers that are far upstream. NTCA asserts that this finding is a fundamentally erroneous and baseless finding of fact that cannot form the basis for “off-net” testing requirements as adopted in the *Measurements Order*.
- (2) *Arguendo* a small provider can obtain reasonable and affordable results with the transport provider, the small provider in all events would have no actual control over events beyond its network and the next-tier network from which it procures capacity directly. It is difficult, if not impossible, for a carrier to identify where a network failure occurs once data traverse beyond those network components.

⁵ Comments of NTCA–The Rural Broadband Association, WC Docket No. 10-90 (fil. Dec. 6, 2017), at 10.

⁶ *Id.*, at 10-11.

⁷ Letter from Rebekah P. Goodheart, Counsel for the Association of Missouri Electric Cooperatives, et al., at 2 (Mar. 13, 2018); Comments of WTA, WC Docket No. 10-90 (fil. Dec. 6, 2017), at 5-8.

⁸ *Measurements Order*, at para. 19.

The Bureaus further explain that of the 20 IXPs the order designates, most are within 300 miles of a provider and all are within 500 miles of a provider.⁹ However, an “air miles” perspective on the distance of an RLEC from a Commission-designated IXP does not address the actual topography of networks. Air miles between a rural provider and an IXP do not correspond to the path of the fiber and the distance between “off-net hops” that a rural provider may use to get to the internet. Even for those RLECs that connect to a statewide network, they may ultimately need to traverse many more miles to an IXP beyond the statewide network. Here, too, it is difficult to argue that these providers are not negotiating or purchasing wisely.

In a sample canvassed by NTCA,¹⁰ half used a statewide network as their primary connection. About a third had access to interconnection points in two different cities. One-third connected at Major Trading Area (MTA) locations; another one-third connected within their own local serving area. These data illustrate the varied make-up of arrangements that rural providers undertake and underscore the argument that obligations based on air mile assumptions are not sufficiently consistent with the reality of the rural marketplace. And, while the *average* distance that companies in this group “traveled” to an IXP was within the Commission’s articulated range, companies in some states traveled more than 900 miles to reach their respective IXP.

To be clear, NTCA wholeheartedly supports the Commission’s goal of promoting accountability in the use of USF resources to construct and operate robust networks capable of

⁹ *Id.*, at para. 19.

¹⁰ Companies in the sample group of approximately 12 firms provide approximately 1,500 to 28,000 connections in different regions of the United States, including the Northeast, Midwest, Southwest, and Southeast discloses additional context for this discussion. NTCA does not present this data as statistically significant but rather as illustrative examples that underscore the need for a more studied examination of the marketplace in order to support the Commission’s directive to test network segments beyond the provider’s control or, alternatively, to support a safe-harbor that would contemplate reasonable efforts to connect to an IXP.

delivering upon the standards demanded by the USF program and promised by the USF recipient, but the Commission can ensure such accountability in the use of program resources by confirming through more localized tests that ISPs are architecting, engineering, building, and operating their networks to meet the applicable standards.¹¹ In contrast, requirements to test to a remote test server located at or reached by passing through an FCC-designated IXP¹² that is located on or proximate to a large regional or nationwide provider's network constitute an unreasonable condition upon support because it requires Eligible Telecommunications Carriers (ETCs) to measure and assure performance on portions of the network far beyond those supported by USF and under the reasonable control of that provider. Section 254 of the Act requires that USF support be sufficient, predictable, and specific.¹³ Although sufficiency does not translate to a certain guaranteed level of support,¹⁴ it represents an unmistakable case of

¹¹ The 80/80 test standard recognizes that test results may be affected adversely by factors beyond the supported carrier's control (*see, Measurements Order* at para. 53). NTCA submits that ratcheting down the standard to accommodate non-supported network segments effectively reduces the bar that supported networks must meet. NTCA submits, as an alternative, that on-net testing, which would offer a more accurate assessment of the provider's execution of commitments under USF/CAF requirements, could be set to a 90/80 standard. Under this protocol, carriers would be required to verify that "90 percent of download and upload measurements be at or above 80 percent of the CAF-required speed" rather than the FCC proposed "80 percent of download and upload measurements be at or above 80 percent of the CAF-required speed" (*see, Measurements Order* at para. 51). Maintenance of the 80 percent threshold for actual *performance* (as compared to *frequency*) is consistent with speed performance characteristics that warrant a 20 percent realization margin to account for actual network capabilities. *See, Connect America Fund: Performance Measures for Connect America High-Cost Universal Service Support Recipients: Ex Parte of NTCA-The Rural Broadband Association*, Docket No. 10-90, DA 17-1085 (Jun. 18, 2018).

¹² *Measurements Order*, at para. 18.

¹³ 47 U.S.C. § 254(b)(5).

¹⁴ *In Re: FCC 11-161*, 753 F.3d 1015, 1055-60 (10th Cir. 2014).

insufficiency when the framework adopted in the *Measurements Order* demands a specified level of performance with respect to portions of the network that USF does not support at all.¹⁵

Therefore, NTCA requests revisiting of the conclusion that a basic “air miles” distance from an IXP is an appropriate demarcation for a testing point for smaller operators in particular. Instead, the testing requirements should be modified to reflect performance *only* with respect to those portions of the network owned by the USF recipient and the next-tier ISP from which that USF recipient procures capacity directly.¹⁶

2. If a Mandate that Operators Test Beyond The Points Described Above Is Retained, Then It Should Also: (1) Provide a Reasonable “Safe Harbor” for “Off-Net” Events Beyond a USF Recipient’s Control; and, (2) Establish a Process for Parties to Apply for Designation of Additional Internet Exchange Points that are More Geographically Relevant to Rural America.

NTCA believes robust testing obligations will be essential to ensure that the networks built and sustained leveraging USF support will meet the needs of consumers now and into the future. But, if the Commission retains the “off-net” requirement as articulated in the *Measurements Order*, then other modifications must be implemented: (1) to establish a process for parties to apply for designation of additional internet exchange points more geographically relevant to rural America; and, (2) to provide a “safe harbor” for “off-net” events beyond a USF recipient’s control.

As one alternative, the Commission should establish a simple, streamlined process for parties to apply for the designation of IXPs beyond those predetermined by the *Measurements*

¹⁵ See *Measurements Order*, at paras. 16-21 (compelling testing on an end-to-end basis to certain Commission-designated points).

¹⁶ NTCA further submits that similar showings should be required to establish that a would-be unsubsidized competitor is in fact capable of delivering the service that it purports to offer in disqualifying a given area for receipt of USF support.

Order. In that order, the only criteria attributed to the selection of additional IXPs was to “ensure that most mainland locations” are within 300 air miles of one of them, and that all are within 500 miles of an IXP. As noted above, considerations beyond mileage almost certainly play into a rural provider’s selection of an IXP, and those should inform a process by which additional IXPs can be designated by the Commission. The original IXPs identified (except Denver) were the locations used by the Measuring Broadband America (MBA) program and selected because they are geographically distributed major U.S. Internet peering locations.¹⁷ However, the MBA program was aimed at “testing for 13 of the largest wireline broadband providers that serve well over 80 percent of the U.S. consumer market.”¹⁸ In contrast, NTCA members serve a small fraction of the U.S. consumer market across a significant percentage of the U.S. landmass. Accordingly, there is no rational basis to determine that an approach based upon measuring the performance of AT&T, CenturyLink, Frontier, Verizon, Windstream, Optimum, Charter, and other large providers¹⁹ would have reasonable applicability to small, community-operated providers or can be “retro-fitted” to accommodate those providers by tacking on a handful of additional points as IXPs based upon mileage “as the crow flies.”

¹⁷ See, *Connect America Fund: Report and Order*, Docket No. 10-90, DA 13-2115, 28 FCC Rcd 15060, at note 63, *citing* FCC’S OFFICE OF ENGINEERING AND TECHNOLOGY AND CONSUMER AND GOVERNMENTAL AFFAIRS BUREAU, MEASURING BROADBAND AMERICA 2011 REPORT, Technical App. at 19-20 (2013).

¹⁸ See, <https://www.fcc.gov/general/measuring-broadband-america> (last visited July 23, 2018, 17:25).

¹⁹ 2016 Measuring Broadband Report, https://www.fcc.gov/reports-research/reports/measuring-broadband-america/measuring-fixed-broadband-report-2016#_Toc464398851 (last visited July 23, 2018, 17:28).

Therefore, if the Commission upholds the requirement to test to the IXP, then it must provide a simple, streamlined method to enable ETCs to identify additional IXPs that correspond more realistically to the actual manner in which rural ETCs obtain connectivity.

Moreover, if the Commission persists to retain the obligation for providers to test beyond the points identified in the preceding section, then a "safe harbor" should be implemented. A safe harbor approach would contemplate a rural provider that undertook reasonable measures to ensure satisfactory connections to the IXP. These may include but not be limited to leveraging of a robust statewide network where available, or multiple "gateways" that may be purchased from private providers. The specific parameters of what constitutes the boundaries of a safe harbor would be informed by an understanding of the practices generally undertaken by rural providers in the normal and ordinary course of business. The validity of these data to inform Commission policy would rely upon the existing practices of rural broadband providers as undertaken in the normal and ordinary course of business. This approach would also contemplate implicitly that periodic difficulties that are attributable to problems beyond the rural operator's control may occur despite the best efforts of a provider that are undertaken to reasonable commercial standard.

Therefore, NTCA submits that (1) the testing obligation should be limited as described in the preceding section, and (2) in the alternative, the Commission should (a) identify additional IXPs and (b) implement a safe harbor. While not perfect and extending beyond the bounds of law with respect to the provision of sufficient support, these measures may at least help ensure that the obligations consider, incorporate and respond to the characteristics and the dynamics of the rural market.

B. IMPLEMENTATION SHOULD BE DEFERRED FOR SMALLER PROVIDERS IN ORDER TO ENABLE WIDER AND MORE SUBSTANTIAL DEVELOPMENT OF TESTING SOLUTIONS IN THE MARKETPLACE.

NTCA has long supported the efforts by the Commission to develop and implement tests that will discern and ensure accountability in performance by those seeking to obtain USF support. NTCA continues to support meaningful implementation of such measures as soon as possible, but a practical reality must be considered – specifically, equipment that enables economically and administratively efficient testing by rural ETCs is not yet widely available and fully developed in the marketplace. Moreover, current gateways with capability of testing have not been placed under load to ensure accuracy of test results for repeated testing. Accordingly, the Commission should provide at least 12 months prior to implementation to enable the development and acquisition of testing solutions that meet the needs of smaller ETCs as defined further below. As described previously by NTCA, modems with built-in testing capabilities are not widely available in the marketplace for small providers.²⁰ National-scale carriers that purchase modems and routers on the scale of tens- or hundreds-of-thousands enjoy seemingly greater ability to order or even develop for themselves on a proprietary basis “bespoke” devices, tailored to the design specifications and network need of the large carrier. In contrast, small carriers such as NTCA members must purchase their supplies “off the rack” – and may already be in the midst of (or have completed) deployments using equipment that cannot quickly or easily be “retrofitted” to accommodate the testing designs of the *Measurements Order*. In turn, this would necessitate locating, procuring, dispatching, and convincing customers to permit installation of (and then to help use) stand-alone devices for purposes of testing. This is no small task, particularly again when those devices are not yet widely available.

²⁰ *Ex Parte* Presentation of NTCA (April 19, 2018).

Accordingly, what might be the most economically efficient path toward compliance may be unavailable to small providers for months or even years. Rather, small providers must wait until the market reaches their doors, and until that time rely upon other solutions that will implicate constant and costly customer interactions. Indeed, as noted above, testing requirements will introduce substantial recurring operating expenses for smaller operators. Certain of these expenses are tied directly to the need for rural providers to identify customers who are willing to accept additional testing equipment into their residences;²¹ the possibility that some will require “inducements,” as even the Commission noted;²² truck rolls to deploy and retrieve equipment; and customer education to ensure compliance with testing protocols and to prevent attrition.

To be sure, additional administrative costs will be realized even if modems with built-in testing capabilities are deployed, but the lack of equipment with built-in testing capabilities will wreak a particularly striking and adverse impact on provider expenses. Accordingly, NTCA requests the Commission to suspend or waive the performance measurement obligations until a reasonable time following the widespread introduction of modems with built-in testing capability to the rural market. The Bureaus and OET were clear that they intended providers to enjoy flexibility and latitude in meeting testing obligations, and NTCA appreciates that approach. However, the avenue that appears to provide the most cost-effective route to compliance is currently foreclosed because the necessary equipment is neither fully developed nor widely available. Accordingly, NTCA urges the Commission to defer the effective date or, in the

²¹ The matter of obtaining customer consent should not be minimized. The placement of measurement devices in residences contemplates a provider asking a customer to accept equipment that is intended solely to assist the provider's compliance with a Federal government regulation. That this device is connected to the customer's portal to the Internet may engender greater wariness on the part of the customer, notwithstanding the device does not track the user's preferences, sites or other similar information.

²² *Measurements Order*, at para. 40.

alternative, to waive the new requirements for small carriers until a reasonable time after equipment is widely in the marketplace. This relief would recognize that the intent of the Bureau to provide regulatory latitude simply cannot be fulfilled if an avenue the Bureaus and OET envisioned has yet to be created. In these regards, "small carrier" could carry the definition used by the Commission previously to address a temporary exemption from other broadband-related requirements. Specifically, the Commission provided relief from then-applicable enhanced transparency mandates – some of which may have required testing akin to that here – to "providers serving no more than 250,000 subscribers."²³ The Commission defined "subscriber" as "broadband connections reported on a provider's most recent Form 477."²⁴ NTCA submits the same definition should apply in this instance, as it reflects a sound distinction that captures the general numeric distinction between small and large providers.

Relief for smaller providers, even just on a temporary basis, would be consistent with Commission precedent. In 2010, the Commission recognized that a prohibition on the manufacture or import of certain radio equipment during a narrowband transition would be contrary to the public interest of keeping the "phasing-out" systems in working order until a full migration to new technology was accomplished.²⁵ The prohibition had been established in order to *speed* a full migration, but the Commission recognized at that time the realities that attend a functioning network. In addressing the issue, the Commission asked whether the underlying purpose of the rules would not be served or would be frustrated, and whether grant of the request

²³ *Small Business Exemption From Open Internet Enhanced Transparency Requirements: Order*, Docket No. 14-28, 32 FCC Rcd 1772, at para. 5 (2017).

²⁴ *Id.*, at note 20. *See, also, id.* at note 27.

²⁵ *Implementation of Sections 309(j) and 337 of Communications Act of 1934, as Amended; Promotion of Spectrum Efficient Technologies on Certain Part 90 Frequencies: Order*, Docket No. 99-87, RM-9332, 25 FCC Rcd 8861, at para. 8 (2010).

would be in the public interest; the Commission also asked whether implementation of the rule would be inequitable, unduly burdensome, or contrary to the public interest, and whether the applicant had a reasonable alternative.²⁶ NTCA submits that in the current matter, the public interest is not served by limiting compliance to what appears to be the most administratively difficult and costly approach. And, as described above, as small providers are subjected disproportionately to the regulatory burdens occasioned by the new rules, it would be inequitable, unduly burdensome and contrary to the public interest to compound that disproportionate impact by permitting compliance via only a more expensive route.²⁷

To be sure, NTCA has previously advocated a need for the Commission to assure that recipients of USF support provide the supported services fully. Indeed, NTCA believes accountability will be essential in validating the claims of service providers receiving support – particularly those that assert their supported networks will achieve speeds and performance that, quite frankly, have never been seen to date on a widespread commercial basis. However, NTCA submits that the requirements must be achievable in a reasonable manner. A temporary delay of obligations that allow the market to "catch up" to the requirements by developing equipment that enables economically and administratively efficient compliance is consistent with both goals.

Therefore, it is in the public interest to defer the effective date of the new rules until at least 12 months after devices with built-in testing are determined to be widely available in the market and meet rigorous testing requirements.

²⁶ *Id.*, at para. 7.

²⁷ The Commission implemented a similar deferral for small carriers when implementing back-up power requirements. *See, Ensuring Continuity of 911 Communications: Report and Order*, Docket No. 14-174, 30 FCC Rcd 8677 (2015).

C. NEW TIERS FOR TESTING LOCATIONS SHOULD BE ADOPTED, SO THAT A SMALL USE RECIPIENT WITH A FEW HUNDRED SUBSCRIBERS IS NOT REQUIRED TO TEST AS MANY LOCATIONS AS A “FORTUNE 500” CARRIER WITH HUNDREDS OF THOUSANDS OF LINES OR MORE.

The *Measurements Order* places upon many small rural ETCs obligations to test the same number of locations as large, national-scale providers. In comments and *ex parte* presentations, NTCA demonstrated the costs and administrative burdens associated with compliance testing.²⁸ NTCA also explained the disproportionate burden that would be visited upon a small carrier that is required to test the same number of locations as a large, national-scale provider. These costs are disproportionate not only because a 50-location panel of testing locations is proportionally larger for a rural provider than a national provider, but also because, as described above, the costs of testing rural locations will likely require obtaining customer consent, truck rolls, and administrative actions to prevent attrition of testing locations. Moreover, the burden on small providers is especially pronounced because unlike a price-cap carrier that tests for a single tier, a small model-electing company with multiple tiers could be required to test as many as 150 locations in a state (50 per tier), an obligation that is *three-times* the maximum obligation to which a large price-cap carrier would be subject.²⁹ To be sure, the *Measurements Order* “acknowledge[d] . . . that smaller carriers may find testing 50 locations burdensome.”³⁰ And, yet, the final rules, which mandate testing requirements per service tier, could impose astonishingly high burdens on small providers.

²⁸ NTCA Comments, at 6-8; *Ex Parte* Presentations of NTCA (April 19, 2018; June 18, 2018).

²⁹ *See, i.e., Measurements Order*, at para. 29.

³⁰ *Id.*, at para. 37.

The Bureaus and OET explain their interest in ensuring that testing supports an acceptable margin of error and confidence. Nevertheless, NTCA submits that overall confidence in test results would be sufficient in instances in which fewer locations of rural providers were tested. In this regard, NTCA submits the recommendations it advanced previously,³¹ specifically, the lesser of 50 locations per state or 5 (five) percent of relevant locations with active subscribers. NTCA submits further that this total should be *per state*, rather than *per tier*. The total number of tests per tier would be assigned proportionally according to the number of subscribers per service tier.³²

Other Federal agencies have accommodated the difficulty presented by testing in relatively small populations. By way of example, the Food and Drug Administration (FDA), in its implementation of the Orphan Drug Act³³ monitors testing for potential cures. Although an "orphan" disease is one affecting fewer than 200,000 persons in the United States, the reality is that most orphan diseases affect populations comprising a much smaller group than that upper limit. The challenge, however, is that the FDA must balance the need to assure adequate testing in circumstances that, by definition of the small affected populations, offer limited opportunity

³¹ NTCA Comments, at 8-9.

³² Under such an approach, the total number of locations across all tiers that would be subject to the testing obligations would be divided into three groups that are proportionally equal to the number of subscribers in each tier. The total number of test locations would be equal to the lesser of five percent or 50. If the sample pool from any tier was fewer than five locations, additional sample locations could be added until that tier tests five randomly sampled locations. If adding to any tier to achieve five test locations causes the total test location count to exceed 50, then test locations would be subtracted from the other tiers, on a proportional basis, until the total test locations for the state is 50.

³³ Orphan Drug Act, Pub. L. 97-414, as amended (1984).

for study and replication.³⁴ However, the FDA relies upon a standard of "substantial evidence" that can be drawn from "adequate and well-controlled trials."³⁵ The statute defines "substantial evidence" as

evidence consisting of adequate and well-controlled investigations, including clinical investigations, by experts qualified by scientific training and experience to evaluate the effectiveness of the drug involved, on the basis of which it could fairly and responsibly be concluded by such experts that the drug will have the effect it purports or is represented to have under the conditions of use prescribed, recommended, or suggested in the labeling or proposed labeling thereof.³⁶

NTCA does not discount the value of verifiable statistical methodologies. At the same time, however, NTCA submits that equity and the recognition of disproportionate cost impacts (arising from both relative number of testing locations for small and large providers, and the availability of testing-compliant equipment) argue for testing protocols that are keyed to the size of the provider. Small providers should be permitted to "affirm and confirm" conditions from panels that can be reasonably relied upon to represent overall network conditions, without placing upon small providers the same (and, as described above, costlier) obligations to which much larger firms are subject. The testing thresholds supported by NTCA (and other parties) permit the Commission, relying on its training and expertise, to fairly and responsibly conclude that small providers are meeting their CAF obligations. Much the way the FDA statute permits the agency to incorporate flexibility and judgment when testing the safety and efficacy of drugs, NTCA urges the Commission to define reasonable testing thresholds that recognize the

³⁴ These difficulties are compounded by relatively few treating physicians; difficult or delayed diagnoses; and, when addressing genetic disease, the possibility of wide variances in manifestation.

³⁵ 21 U.S.C. § 355(d).

³⁶ *Id.*

difference between locally-owned, community-operated telecom providers and large, national-scale corporations.

Perhaps more than any other sector of the communications industry, small rural providers such as the members of NTCA are accustomed to complying with “accountability” requirements that high-cost support mechanisms be directed toward the deployment of advanced and capable networks. These general practices are fortified by the rigorous accounting and auditing processes that study and review expenditures at multiple levels before costs can be recovered. In fact, Commission inquiries aimed at improving accountability in the program can cite only but the barest handful of carriers among one-thousand whose actions have resulted in enforcement proceedings. The overwhelming majority of, if not virtually all, small providers have used high-cost support efficiently, effectively, and lawfully. While NTCA acknowledges that these assertions alone may be insufficient when verifying that networks capable of providing the supported service are operating, the normal and ordinary practices of the small, community-operated providers *coupled with* random testing as may be prescribed by the *Measurements Order*³⁷ mitigate concerns that the mathematical margin of error or confidence may not be as high as would be achieved when testing a larger sample. Stated differently, the random sampling directive ensures that small rural providers cannot “surf locations” and cherry pick the best-performing spots in their network; the random sampling also ensures that a fair, representative window into network performance can occur. The raft of regulations that attend small carriers in their receipt of high-cost support bolsters the likelihood that overall network performance conforms to the deployment standards ordered by the Commission. Moreover, equity and economic efficiencies support the proposition that *practical confidence* can supplement

³⁷ *Measurements Order*, at para. 40.

statistical confidence for purposes of sustaining the validity of a random sample from a generally small population.

NTCA recognizes that in a smaller sample set, a single adverse result can trigger consequential offsets to the overall pool. For that reason, NTCA recommended in comments, and recommends here, as well, viewing non-compliance among small samples as a trigger for the provider to demonstrate a mitigating factor that frustrated performance, rather than an automatic reduction in support.³⁸ (The Commission recognized the usefulness of this type of opportunity in instances in which insufficient testing outcomes may result from faulty equipment.³⁹) This approach ensures that small providers are not burdened by regulations that were tailored originally to large providers, while at the same time ensuring that statistical variances borne of naturally small samples groups do not introduce the possibility of immediate penalty. Alternatively, non-compliance could be utilized as a trigger to test more locations. This, too, would reflect the understanding that in a small sample, a single result can skew results adversely. This would not be read as an attempt to "dilute" poor results, but rather as a ramp that could, eventually, require a small provider to test as many locations as a large one. But, at the beginning of that ramp, a small provider achieving compliant results with a smaller, randomly-drawn set, could be determined to be in compliance with the rules.

Another element of the rules also threatens both financial and administrative burdens. The *Measurements Order* contemplates that where an insufficient number of customers subscribe to a service that must be tested, carriers "may still find it necessary to upgrade individual subscriber locations, at least temporarily, to conduct speed testing."⁴⁰ This

³⁸ NTCA Comments, at 15-17.

³⁹ *Measurements Order*, at note 145.

⁴⁰ *Id.*, at para. 51.

requirement would be operationally burdensome as it would require providers to variously increase and decrease service at locations to meet testing calendars. This would implicate an added sequence to the series of costs described above. Moreover, this requirement could also cause damaging customer confusion and a blow to the company's goodwill, as customers may not understand fully the basis for the temporary increase and then decrease in service. NTCA recognizes that companies may from time-to-time offer promotional deals that include increased capacity or services (*i.e.*, limited-time free access to premium video channels or increased speeds). Those promotions, however, are part of well-planned and strategic marketing campaigns that can contemplate significant company resources, and which are often timed to the introduction of new service tiers or other events. A requirement to increase capacity at random subscriber sites would not only cause confusion to the individual customer but could also interfere with the company's general marketing strategies and promotional efforts. Accordingly, this requirement should be set aside.

Therefore, the number of locations small providers are required to test should be reduced to the lesser of 50 locations per state or 5 (five) percent of relevant locations with active subscribers on a per state, rather than per tier, basis.

D. SEVERAL ASPECTS OF THE ORDER WARRANT CLARIFICATION.

1. The Relationship Between Subscribed, Advertised, and Required Speeds Should be Clarified to Avoid Both Confusion and Deterrence of Investment in Higher-Speed Services Where They Could be Offered.

The *Measurements Order* adopts an “80/80 standard” for demonstration of compliance with speed performance metrics.⁴¹ In describing the implementation of this standard, the order further explains that it “will exclude from certification calculations any speed measurements with

⁴¹ *Id.*, at para. 51.

values greater than 150% of the advertised speed, because such values are likely invalid.”⁴²

Clarification is warranted with respect to implementation of this provision to ensure that it does not exclude locations that are satisfying the applicable speed standards or deter USF recipients from providing higher speeds to interested consumers.

In footnote 145, the Bureau provides the example of a location where a USF recipient offers 20/3 Mbps service to satisfy a 10/1 Mbps USF obligation. In this example, the Bureau indicates that a download test reflecting a value of greater than 30 Mbps (*i.e.*, 150% of the 20 Mbps advertised speed) for that location would be excluded from the certification calculations. This approach only works, however, if USF recipients will be reporting advertised speeds for each location; otherwise, a test that shows even “just” 20 Mbps download for a 10/1 required location would itself look to exceed the 150% threshold and be thrown out despite that being the advertised speed for that location.

Moreover, it is important to clarify the relationship between advertised and subscribed speeds, distinct from required speeds. Continuing with the example provided in footnote 145, assume that the consumer chooses to subscribe to 15/1 Mbps broadband at a location where 20/3 Mbps broadband is advertised but the requirement is for 10/1 Mbps broadband. NTCA understands in this case the 150% level would still be measured against the 20 Mbps advertised speed, but clarification is warranted.

Finally, clarification should be provided that, while the advertised speed may be important in determining which measurements to exclude pursuant to the 150% standard, neither the advertised speed nor the subscribed speed will be relevant in the actual determination of compliance. In other words, continuing with the example used above, the Commission should clarify that the USF recipient’s ultimate compliance will always be measured against the 10/1

⁴² *Id.*, at note 145.

Mbps requirement, regardless of whether 20 Mbps is advertised or 15 Mbps is subscribed to by the consumer. Any other interpretation would have the ironic consequence of deterring recipients from making efficient use of USF for the benefit of consumers to build networks that are even more capable than the required baseline for fear of failing then to achieve compliance as a result of the higher speeds deployed – in effect, resulting in a “no good deed goes unpunished” approach to efficient use of USF and measuring performance.

2. Clarifying Confirmation Should be Provided that the Order, by its Current Terms, is Not Applicable to RLECs that are Currently Not Subject to Mandatory Build-Out Obligations.

On its face, the framework established by the *Measurements Order* applies only to those USF recipients with mandatory buildout obligations. For example, as discussed above, determinations of compliance are linked to mandated deployment levels.⁴³ The number of locations to be tested is based upon those locations “reported in the HUBB,” which is required only of those USF recipients subject to mandatory buildout obligations.⁴⁴ Finally and most directly, *the Measurements Order* itself clearly and unequivocally states that the framework *only* applies to “all providers with CAF Phase II, A-CAM, rate-of-return *mandatory buildout*, [Rural Broadband Experiment], and Alaska Plan obligations.”⁴⁵ Thus, on its face, the order does *not* apply to those RLECs that have already deployed substantial levels of broadband and are not subject to mandatory buildout obligations, because the Commission several years ago made the

⁴³ *Id.* at paras. 50-55.

⁴⁴ *Id.*, at paras. 34-36.

⁴⁵ *Id.*, at Appendix A (emphasis added).

determination that USF resources should be directed toward mandating greater buildout by other firms that had not already achieved such a level of buildout.⁴⁶

Perhaps the clearest demonstration of how the framework set forth in the *Measurements Order* cannot simply be “slapped atop” RLECs without mandatory buildout obligations comes in determining compliance. If there is no mandated buildout obligation, there is neither a clear speed threshold to which a carrier can be required to test nor a specified number of locations at which the test can be conducted. Assume then a carrier that has already built fiber-to-the-home across much of its study area and advertises 100 Mbps service at each location. Do all locations in the study area count for purposes of identifying which are subject to testing, and is the standard for compliance 10/1 Mbps (the buildout standard for *other* cost-based RLECs) or 100 Mbps? If the standard is the latter speed, this would actually *penalize* the operator for having already achieved significant deployment and could serve as a deterrent to others that might otherwise consider further upgrading their networks – as many RLECs are eager to do in the interest of serving their communities well – notwithstanding the lack of specific buildout mandates. To be clear, NTCA does not oppose reasonable accountability efforts to measure in some manner whether such “significantly deployed” RLECs are using USF resources like their counterpart support recipients to deliver services for the benefit of their consumers.⁴⁷ But the

⁴⁶ See, *Connect America Fund, ETC Annual Reports and Certifications, Developing a Unified Intercarrier Compensation Regime: Report and Order, Order and Order on Reconsideration, and Further Notice of Proposed Rulemaking*, Docket Nos. 10-90, 14-58, 01-92, 31 FCC Rcd 3087, at para. 164 (2016).

⁴⁷ Indeed, NTCA has even suggested that should the Commission establish reasonable thresholds of support (or “floors”) upon which such RLECs can rely, it would be appropriate to develop buildout obligations tied to those levels of support. See, *Connect America Fund, ETC Annual Reports, Establishing Just and Reasonable Rates for Local Exchange Carriers, Developing a Unified Intercarrier Compensation Regime: Comments of NTCA–The Rural Broadband Association*, Docket Nos. 10-90, 14-58, 07-135, 01-92, at 34-39 (filed May 25, 2018).

Measurements Order itself as written cannot simply be “retrofitted” through “clarification” or even an “erratum” to apply to these RLECs without following additional proper notice-and-comment rulemaking procedures that include specific proposals as to how such requirements would apply in this case and then takes account of stakeholder feedback on those proposals.

3. The Same Pool Should be Used for Speed and Latency Testing.

As described above, testing requirements can contemplate burdensome costs for small providers if not reasonably designed. These costs will increase substantially without clarity that providers can use the same locations for both speed *and* latency testing. The *Measurements Order* varies the number of testing locations based upon the number of candidate subscribers.⁴⁸ It is not clear, however, whether the variable number is to apply to the selection of testing locations for latency, since the table that sets forth the varying number of testing locations is titled, “Required Test Locations for Speed.”⁴⁹ NTCA urges clarification that the same panelists can be used for both speed and latency, and that the number of latency test locations is similarly tied to the number of eligible candidate locations.

4. All Carriers Should be Permitted to Use All Testing Methodologies.

NTCA requests clarification that all carriers may use *all* testing methodologies described in the *Measurements Order*. The order states, “We provide high-cost support recipients that serve fixed locations three options to afford flexibility in choosing solutions to conduct required performance testing.”⁵⁰ Further in the same paragraph, however, the Commission states, “We note the MBA testing must occur in areas and for the locations supported by CAF, *e.g.*, in CAF Phase II eligible areas for price cap carriers and for specific built-out locations for RBE,

⁴⁸ *Measurements Order*, at para. 36.

⁴⁹ *Id.*, at Appendix A, p. 28.

⁵⁰ *Id.*, at para. 9.

Alternative Connect America Cost Model (A-CAM), and legacy rate-of-return support recipients."⁵¹ NTCA requests the Commission to clarify that although the end of the paragraph specifies certain previously-promulgated MBA testing requirements, carriers covered by the *Measurements Order* may avail themselves of the three options set forth in the beginning of the paragraph, specifically, (i) MBA, *or* (ii) existing network management systems and tools, *or* (iii) provider-developed solutions.

III. CONCLUSION.

WHEREFORE the reasons stated herein and above, NTCA requests modification and clarification of the *Measurements Order* to ensure that the intent of the order can be met through requirements that are neither unduly financially or administratively burdensome to small carriers. As described above, the current requirements portend significant and unreasonable costs on small carriers, and moreover threaten receipt of high-cost support for insufficient performance over networks that are not supported by high-cost funding. Therefore, NTCA urges modifying obligations to test to the IXP; to temporarily delay implementation of the rules until equipment that enables cost-efficient compliance is readily available in the marketplace, and; to reduce the number of required test locations to meet the proportional size of the carrier. Additionally, clarification of the items listed above will ensure that the Commission's goals of verifying the full provision of supported service are met, leading one step closer to the goal of robust broadband, ubiquitously throughout the Nation.

⁵¹ *Id.*

Respectfully submitted,

/s/ Michael R. Romano _____

Michael Romano

Joshua Seidemann



4121 Wilson Boulevard, Suite 1000

Arlington, VA 22203

mromano@ntca.org

703-351-2000 (Tel)

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