



April 10, 2019

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th Street, S.W.  
Washington, DC 20554

**Re: WC Docket No. 10-90; DA 18-710**

Dear Ms. Dortch:

ITTA - The Voice Of America's Broadband Providers (ITTA), USTelecom – the Broadband Association (USTelecom), and the Wireless Internet Service Providers Association (WISPA) (collectively, “Petitioners”) write to add further detail and support to the issues we raised in our joint Petition for Reconsideration regarding broadband testing and measurement obligations.<sup>1</sup> Specifically, we supplement proposals related to the frequency of latency testing, manner of speed and latency testing, and overall performance measurement implementation timing.

As associations, we represent members that have been involved in every Connect America Fund (CAF) program, including the Rural Broadband Experiments (RBE), CAF II model and frozen support, CAF II reverse auctions, A-CAM participants and CAF-BLS participants. This wealth of experience as CAF Eligible Telecommunications Carriers (ETCs), especially from our members who have already reported compliance with deployment milestones, informs our recommendations. Given our collective commitment to the CAF program, we understand the importance of a broadband metrics testing program that maintains the integrity of the CAF programs while ensuring the testing regime is administrable, efficient, and not overly burdensome.

***Latency Testing Harmonization Provides the Same Results with Less Burdens***

Petitioners have obtained data supporting their request<sup>2</sup> for the Commission<sup>3</sup> to harmonize the frequency of latency testing with the frequency of speed testing by requiring one test per hour. Specifically, AT&T has conducted its own tests of subscribers in CAF II areas and found no statistical difference between testing latency once per minute, as the *Order* currently

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<sup>1</sup> Petition for Reconsideration and Clarification, USTelecom, ITTA, WISPA, WC Docket No. 10-90 (filed Sept. 19, 2018) (Petition).

<sup>2</sup> *Id.* at 4-12.

<sup>3</sup> The broadband performance measurements order in question was adopted by the Wireline Competition Bureau, Wireless Telecommunications Bureau, and Office of Engineering Technology (Bureaus). *Connect America Fund*, WC Docket No. 10-90, Order, 33 FCC Rcd 6509 (WCB, WTB, OET 2018) (*Order*).

requires, and once per hour as Petitioners have proposed.<sup>4</sup> As the results below demonstrate, the average latency reported was nearly identical regardless of the testing frequency. Similarly, the standard deviation to the average latency was nearly identical under both methodologies.

	<b>Every Min Latency Tests</b>	<b>Every Hour Latency Tests</b>
<b>Number of Valid Tests</b>	5905	102
<b>Average Latency (ms)</b>	56.66	56.79
<b>Std Dev to the mean</b>	13.63	13.05
<b>% of tests &gt;100ms</b>	0.20%	0.00%

In fact, to the extent there is a discrepancy, the average latency skewed slightly higher (56.79 ms vs. 56.66 ms) under the once-per-hour method, demonstrating that Petitioners' request would not result in participants gaming the latency test to skew the results in their favor. Another company, Frontier Communications, similarly found no statistical difference in results between the two testing methodologies.

Accordingly, because testing latency once per hour achieves the same result as testing once per minute, there is no justification to use a once-per-minute testing methodology that is significantly more burdensome for CAF recipients to implement.<sup>5</sup> And, of course, there remains no record basis for the Commission to adopt a once-per-minute latency testing regime.<sup>6</sup> The Commission should adopt Petitioners' proposal to require latency testing once per hour.<sup>7</sup>

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<sup>4</sup> See, e.g., Petition at 5-9.

<sup>5</sup> See Petition at 8-9 (explaining the burdens associated with measuring latency at an accelerated cadence). Petitioners continue to support flexibility in using either Internet Control Message Protocol (ICMP) or User Datagram Protocol (UDP); the *Order* acknowledges both as valid means of latency testing. *Order*, 33 FCC Rcd at 6516, para. 18. Relatedly, Petitioners also reiterate that the Commission should align Tier 1 of the *Order*'s compliance framework for latency and speed benchmarks with Tier 1 of the deployment compliance framework, as the goals of both compliance frameworks are to ensure providers meet their service obligations. As currently written, the rules unfairly impose more substantial Tier 1 penalties on CAF recipients that fail to meet speed and latency benchmarks over those that fail to meet deployment milestones. See, e.g., Letter from Mary L. Henze, Assistant Vice President, Federal Regulatory, AT&T, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90, at 2 (filed Mar. 15, 2019) (Petitioners' Mar. 15, 2019 *Ex Parte*). Petitioners' Mar. 15, 2019 *Ex Parte* memorialized a meeting attended by representatives of AT&T, ITTA, and WISPA, and USTelecom staff, while not present at the meeting, expressly shares the views espoused in the letter. See *id.* at 1 n.1.

<sup>6</sup> See, e.g., Petition at 5-9.

<sup>7</sup> As the *Order* establishes, providers may elect to do more than the minimum required number of latency tests at subscriber test locations, so long as they include the results from all tests performed during testing periods in their compliance calculations. See *Order*, 33 FCC Rcd at 6519, para. 27.

***On-Net Testing Provides the Flexibility the Real World Demands***

There is significant precedent for Petitioners' position that speed and latency testing should route to a CAF ETC's nearest Internet access point (on-net), and need not route through an FCC-specified Internet Exchange Point (IXP) located in one of 16 cities.<sup>8</sup> As an initial matter, for some of Petitioners' members, a large portion of their internet traffic is routed directly to major content providers such as Google, Amazon, Facebook, Netflix, etc.) as opposed to carrier-to-carrier interconnects at IXPs. Therefore, "on net" testing is a better representation of end users' real-world experience. The Commission previously found that typically, "the nearest Internet access point end-point would be . . . the Internet gateway, the closest peering point between the broadband provider and the public Internet for a given consumer connection."<sup>9</sup> The Commission also concluded that "broadband performance that falls short of expectations is caused primarily by the segment of an ISP's network from . . . the consumer gateway to . . . the ISP's core network."<sup>10</sup> In doing so, the Commission acknowledged that testing to the end of the ISP's core network is likely to yield representative results of the broadband experience because any degradation is unlikely to occur beyond that point.

The "nearest designated IXP" testing point that the Commission adopted in 2011 differs substantially from the *Order's* decision to require CAF recipients to use a Commission-designated IXP located in a relatively small number of cities. Simply put, Petitioners' members do not, in the normal course of business, route their customers' traffic in the manner contemplated by the *Order*. Requiring CAF recipients to route traffic through a Commission-designated IXP will cause them to deviate from their actual traffic routing, which commonly includes direct connections to certain content providers. In this way, on-net testing, as defined by the Commission in 2011, instead of mandated routing to a few cities for testing, will provide a much more accurate snapshot of the consumer's broadband experience. CAF ETCs could log the parameters of the test (e.g., where the test packets were routed) for use in an audit of the results.

CAF recipients should have a choice of testing either to a Commission-designated IXP<sup>11</sup> or to "the closest peering point between the broadband provider and the public Internet for a

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<sup>8</sup> *Id.* at 6516, paras. 19-20.

<sup>9</sup> *Connect America Fund et al.*, WC Docket No. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17706, para. 111 (2011) (*USF/ICC Transformation Order*).

<sup>10</sup> *Id.* (quoting Measuring Broadband America, A Report on Consumer Wireline Broadband Performance in the U.S., FCC's Office of Engineering and Technology and Consumer and Governmental Affairs Bureau, 2011 WL 3343075 (Aug. 2, 2011)). In context, "the ISP's core network" referred back to the Commission's depiction of "the Internet gateway." *See id.*

<sup>11</sup> If the Commission decides to maintain a list of designated IXP locales as an optional selection, it should significantly increase the number and type of locales on the list. The *Order* generally used the cities designated for the Measuring Broadband America (MBA) program as its starting point and added others for CAF recipient testing purposes. *See Order*, 33 FCC Rcd at 6516, para. 20. However, the breadth of providers participating in all of the CAF programs subject to the broadband performance testing and reporting requirements, as well as the geographically dispersed locations of such providers' customers, are very different from the MBA. MBA

given consumer connection,” as the Commission previously concluded would be meaningful and appropriate.<sup>12</sup>

If a CAF recipient elects to test to or through a Commission-designated IXP, it should be afforded maximum flexibility as to the testing server. Providers should be permitted to utilize their own server, or share a server with other ISPs. Those clarifications will best realize the *Order*’s goals of “maintain[ing] a stringent performance compliance regime while avoiding unnecessary burdens on smaller carriers . . . [by] allow[ing] flexibility concerning the specific testing approach so that carriers can select, consistent with [the *Order*’s] adopted framework, the best and most efficient testing methods for their particular circumstances.”<sup>13</sup>

### ***Required Testing and Reporting Should be Phased In Based on Program Milestones***

For numerous reasons, it has become abundantly apparent that the July 1, 2019 start date for speed and latency testing established by the *Order* is neither advisable nor realistic.<sup>14</sup> In light of this, Petitioners here expand upon their prior suggestions for the appropriate implementation period for testing.

Conceptually, required testing and reporting of performance of federal high-cost universal service fund (USF)-supported broadband services can be divided into two categories: (1) programs where at least some deployment milestones already have passed; and (2) programs where those milestones have not yet passed. CAF Phase II model-based and frozen support recipients and RBE support recipients comprise the first category. The second category consists

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participants are primarily large wireline and cable ISPs serving population centers. In contrast, many CAF recipients are small wireline and wireless providers with customer locations in rural areas, often far removed from the large cities that constitute the *Order*’s designated IXPs. This difference alone from MBA testing supports Petitioners’ request to adopt a more flexible “closest peering point” standard. As the record reflects, testing performance to an IXP 300-500 miles away, as would be the case under the FCC-designated IXP paradigm, *see id.*, threatens to yield test results that do not reflect the service delivered by CAF recipients to their customers. *See, e.g.*, Petition at 20-21 (“[T]he areas eligible for CAF support often remain unserved because of a lack of high-speed backhaul options. . . . It makes little sense to require . . . providers to test to a specified IXP that is up to 500 miles away and generate artificial results rather than to the “nearest” IXP (at which actual customer traffic is routed to the Internet) . . .”); Letter from Gerard J. Duffy, WTA Regulatory Counsel, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90, at 2 (filed Apr. 4, 2019) (WTA Apr. 4 *Ex Parte*).

<sup>12</sup> *See USF/ICC Transformation Order*, 26 FCC Rcd at 17706, para. 111. For avoidance of doubt, Petitioners continue to support the *Order*’s determination permitting “all providers serving non-contiguous areas greater than 500 air miles from an FCC-designated IXP to conduct all required latency and speed testing between the customer premises and the point at which traffic is aggregated for transport to the continental U.S.” *Order*, 33 FCC Rcd at 6517, para. 21.

<sup>13</sup> *Order*, 33 FCC Rcd at 6515, para. 17.

<sup>14</sup> *See id.* at 6533, para. 67 (first submission of testing data should include data for at least the third and fourth quarters of 2019); *see also, e.g.*, Petitioners’ Mar. 15, 2019 *Ex Parte* at 1 (“Given the work still to be done to finalize the performance metric rules, we strongly urged the Commission to delay the current July 1, 2019 start date for testing.”).

of CAF Phase II auction winners, A-CAM program participants, and legacy rate-of-return carriers receiving support for CAF-BLS.<sup>15</sup>

For all such recipients irrespective of category, Petitioners urge the Commission to designate the first two quarters' testing reports as transitional and not subject to non-compliance measures for any performance deficiencies. The Commission's approach towards implementing the High Cost Universal Service Broadband (HUBB) filing requirements is instructive. The Wireline Competition Bureau (Bureau) anticipated that, "[d]espite carriers' best efforts," in the initial year of filing there might be instances requiring manual intervention by USAC or subsequent follow-up to resolve.<sup>16</sup> In fact, the Bureau intended USAC to take into account lessons learned from the initial implementation to provide further filing guidance as needed.<sup>17</sup> The Bureau expected carriers to work diligently so that "soon after" the initial filing deadline, carriers subject to the deadline would have submitted any missing data and corrected any data errors or anomalies found by USAC or by the filer in the initial filing.<sup>18</sup> The Bureau likewise recognized "the public interest benefit of allowing carriers sufficient time to collect and file correct and accurate data."<sup>19</sup>

Here, too, USAC and the Commission will be implementing a brand new data collection, and there are bound to be inadvertent miscues in the initial filings and important lessons learned from the resolution of such miscues. To accommodate this healthy trial-and-error process, the Commission should not subject the first two quarters' testing reports to compliance measures for any testing or performance deficiencies.

Testing Implementation for the First Category of Programs. For the first category, Petitioners suggest the Commission require that testing commence at the beginning of the first full calendar quarter immediately following the later of (1) six months after Federal Register publication of the Commission order addressing the myriad outstanding issues raised in the numerous petitions for reconsideration and applications for review of the *Order*, or (2) two weeks following the Commission's announcement in the Federal Register of Office of Management and Budget approval of the testing and reporting regime pursuant to the Paperwork Reduction Act (PRA). This should provide CAF Phase II model-based and RBE support

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<sup>15</sup> These categories are based on the support program, not the particular provider's regulatory status under the Commission's rules. Thus, for example, a provider that receives both CAF Phase II model support and auction support would have different testing and reporting implementation dates associated with its supported services, depending on the support program to which its particular deployed services are subject.

<sup>16</sup> *Wireline Competition Bureau Provides Guidance to Carriers Receiving Connect America Fund Support Regarding Their Broadband Location Reporting Obligations*, Public Notice, 31 FCC Rcd 12900, 12910 (WCB 2016). The Universal Service Administrative Company (USAC) maintains and oversees operation of the HUBB Portal.

<sup>17</sup> *See id.*

<sup>18</sup> *See id.* at 12911.

<sup>19</sup> *See Connect America Fund*, Order, 32 FCC Rcd 1445, 1448, para. 11 (WCB 2017) (*HUBB Deadline Extension Order*).

recipients<sup>20</sup> with sufficient time to design their testing and reporting processes, and purchase and integrate equipment, to comply with the rules the Commission adopts in the forthcoming order, while at the same time ensuring that testing and reporting is lawfully required under the PRA.<sup>21</sup>

The suggested implementation period for the first category of programs is also consistent with how the Commission approached implementation of broadband deployment reporting to the HUBB Portal. Faced with not having received PRA approval in time for the contemplated initial HUBB filing date – as is the case here with implementation of the broadband performance testing and reporting regime -- the Bureau extended the initial HUBB filing deadlines to dates certain or two weeks after announcement in the Federal Register of PRA approval, whichever was later.<sup>22</sup> The revised implementation dates were therefore designed to align reporting deadlines with approval of the relevant information collection requirements, as well as to “ensure that high-cost recipients, particularly those preparing to file this information for the first time, ha[d] sufficient time to collect and submit their broadband information in the required format.”<sup>23</sup> In addition, the Bureau staggered the revised deadlines based on the particular support program, requiring CAF Phase II model-based support recipients to file first, recognizing their first deployment milestones had already passed.<sup>24</sup>

By implementing all of the above recommendations regarding the timing and nature of initial testing of programs in the first category, the first reporting for providers of services in this category could be due on the first day of the third calendar quarter following the calendar quarter where testing is required to commence.<sup>25</sup> This should expedite the Commission’s receipt and analysis of the data, as well as allow providers in the first category sufficient time to aggregate the data and submit it, without having to be concerned with being subject to any compliance

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<sup>20</sup> As discussed below, although Alaska Communications is within the definition of a first category service provider, Petitioners propose that testing commence for that company one year after the date otherwise calculated based on these criteria, in recognition of the differing circumstances and unique challenges arising in Alaska.

<sup>21</sup> To illustrate, were the forthcoming order to be published in the Federal Register on June 28, 2019, and PRA approval secured and announced in the Federal Register prior to mid-December 2019, testing for providers accepting support pursuant to programs in the first category would be required to commence January 1, 2020, with testing for Alaska Communications beginning January 1, 2021. If, however, the forthcoming order were to be published in the Federal Register on July 31, 2019, and PRA approval secured and announced in the Federal Register prior to mid-January 2020, testing for providers accepting support pursuant to programs in the first category would be required to commence April 1, 2020, with testing for Alaska Communications beginning April 1, 2021.

<sup>22</sup> *See id.* at 1447, para. 7.

<sup>23</sup> *Id.* at 1445, para. 2. *See also id.* at 1447, para. 9 (the deadline extension as contoured “will ensure that the affected carriers have sufficient time following OMB approval to effectively comply with their obligation prior to the revised filing deadlines”).

<sup>24</sup> *See id.* at 1447, para. 10.

<sup>25</sup> To illustrate using the two hypothetical scenarios depicted in note 21, *supra*, under the first scenario (Federal Register publication in June 2019), the first testing data reporting, covering the first and second calendar quarters of 2020, would be due by October 1, 2020 (by October 1, 2021 for Alaska Communications). Under the second scenario (Federal Register publication in July 2019), the first testing data reporting, covering the second and third calendar quarters of 2020, would be due by January 1, 2021 (by January 1, 2022 for Alaska Communications).

measures due to data inaccuracies.<sup>26</sup> Following the initial reporting deadline, the Commission could implement the annual July 1 deadline, covering data from the full prior calendar year, as set forth in the *Order*.<sup>27</sup>

Petitioners recommend that the testing and reporting obligations for Alaska Communications be delayed for one year from the date on which they begin for other first category service providers. Alaska Communications has accepted unique broadband deployment obligations and an Alaska-specific ten-year deployment timeline that the Commission adopted well after those applicable to the other first category service providers.<sup>28</sup> Thus, although Alaska Communications reported its compliance with its first deployment milestone on March 1, 2019,<sup>29</sup> it has not yet completed its CAF Phase II deployment planning process, nor has it yet identified or reported the 31,571 specific customer locations that it must propose in advance to use in meeting its CAF Phase II obligations.<sup>30</sup> Furthermore, the Bureau has authorized Alaska Communications to conduct speed and latency testing to a “point at which traffic is aggregated for transport to the continental U.S.”<sup>31</sup> Alaska Communications will require additional time to identify one or more such aggregation points suitable for testing.<sup>32</sup>

Testing Implementation for the Second Category of Programs. For the second category, Petitioners suggest the Commission require that testing commence at the beginning of the third calendar quarter after a second category support recipient’s initial HUBB filing following its first deployment milestone. This timing is more appropriate for the second category because deployment milestones – which are intended as thresholds of broadband deployment in accordance with deployment obligations and the Commission’s broadband performance requirements – will not yet have been triggered for the programs in this category at the time Petitioners suggest first category recipients commence testing, and the deployment milestones

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<sup>26</sup> This would therefore be more expeditious than the initial reporting schedule contemplated by the *Order*. There, initial testing data reporting would have been due by July 1, 2020 – the third calendar quarter of 2020 – to include testing data from the third and fourth calendar quarters of 2019. See *Order*, 33 FCC Rcd at 6533, para. 67. Under the initial reporting timing suggested above, the first reporting would occur nine months following the commencement of testing, rather than a year.

<sup>27</sup> See *id.*

<sup>28</sup> See *Connect America Fund*, Order, 31 FCC Rcd 12086 (2016).

<sup>29</sup> *Id.* at 12102, para. 52 (“ACS will be required to submit the requisite information to USAC no later than March 1 of each year, for locations where they offered service in the prior year.”).

<sup>30</sup> This deployment plan, identifying 31,571 specific eligible customer locations, is due to the Commission on May 6, 2019. See *id.* at 12099, para. 43 (establishing filing requirement); *Connect America Fund*; *Connect America Fund Challenge Process*, Order, 33 FCC Rcd 8908, 8913, para. 21 (WCB 2018) (deployment plan due 60 days after the Bureau resolves remaining challenge process); *Connect America Fund*; *Connect America Fund Challenge Process*, Order, DA 19-144 (WCB Mar. 5, 2019) (resolving outstanding challenges).

<sup>31</sup> See note 12, *supra*.

<sup>32</sup> Consistent with all other participants in the CAF program, Alaska Communications’ first two quarters’ testing reports should be transitional and not subject to non-compliance measures for any performance deficiencies.

vary significantly among the programs.<sup>33</sup> To the extent broadband deployment obligations for legacy rate-of-return carriers receiving support for CAF-BLS generally are not tied to specific temporal milestones,<sup>34</sup> for clarity, administrative convenience, and in order for the Commission to receive CAF-BLS test results sooner than if tied to the December 31, 2023 end of the initial CAF-BLS deployment obligations period,<sup>35</sup> Petitioners recommend that the Commission establish the same initial testing and reporting deadlines for CAF-BLS as for the services deployed pursuant to the revised A-CAM offer.<sup>36</sup> The timing suggested by Petitioners for implementing testing and reporting of performance of second category program services – the vast majority of which are provided by smaller carriers<sup>37</sup> -- should adequately address concerns expressed by many in the record regarding a revised initial testing and reporting timetable that accommodates reasonable time to implement the Commission’s forthcoming order as well as for cost-effective testing equipment to become sufficiently available in the marketplace.<sup>38</sup>

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<sup>33</sup> To illustrate:

- The first milestone for carriers electing the original A-CAM offer, measuring the deployment of 10/1 Mbps service in conformance with deployment obligations, comes at the end of 2020. *See, e.g., Connect America Fund et al.*, Report and Order, Further Notice of Proposed Rulemaking, and Order on Reconsideration, FCC 18-176, at 10, para. 29 n. 63 (Dec. 13, 2018) (*Rate-of-Return Budget Order*). The first HUBB filing following the initial milestone for such services would be due by March 1, 2021. Testing for such services should commence on October 1, 2021.
- The first milestone for carriers electing the revised A-CAM offer, measuring the deployment of 25/3 Mbps service in conformance with deployment obligations, comes at the end of 2022. *See id.* at para. 29. The first HUBB filing following the initial milestone for such services would be due by March 1, 2023. Testing for such services should commence on October 1, 2023.
- The first milestone for a CAF Phase II auction winner comes at the end of the third year following the auction winner’s authorization to receive auction support. *See* 47 CFR § 54.310(c). The auction winner’s first HUBB filing following its initial milestone will be due by the last business day of the second calendar month following the milestone. *See id.* § 54.316(b)(4). For example, if a Phase II auction winner’s support is authorized on July 26, 2019, its first HUBB filing following its initial milestone would be due by the last business day of September 2022. Testing for such services should commence on April 1, 2023.

<sup>34</sup> The Commission established CAF-BLS deployment obligations in reference to already-existing 25/3 Mbps service combined with a requirement to devote certain percentages of CAF-BLS support specifically for deployment of 25/3 Mbps broadband service. *See Rate-of-Return Budget Order* at 35, para. 112.

<sup>35</sup> *See id.* at 34, para. 110.

<sup>36</sup> As with the extension of the first milestone for carriers electing the revised A-CAM offer and thereby undertaking an obligation to provide greater amounts of 25/3 Mbps service than they had been required to provide under the initial A-CAM offer, in the *Rate-of-Return Budget Order*, the Commission enhanced CAF-BLS 25/3 Mbps deployment obligations, and correspondingly extended the date by which carriers receiving support for CAF-BLS are required to satisfy their deployment obligations. *See id.*

<sup>37</sup> *Cf. HUBB Deadline Extension Order*, 33 FCC Rcd at 1447, para. 10 (carriers receiving CAF Phase II model support tend to be larger carriers with more resources).

<sup>38</sup> *See, e.g.,* Letter from Michael J. Jacobs, Vice President, Regulatory Affairs, ITTA, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90, at 1-2 (filed Feb. 27, 2019).



The need for the Commission to designate the first two quarters' testing reports as transitional and not subject to non-compliance measures for any performance deficiencies is no less present for programs in the second category than in the first. Although some testing and reporting regime systemic miscues will be addressed and remedied following the transitional reporting period for first category programs, second category programs, especially those subject to CAF II auction support, represent a host of new technologies and providers. Inadvertent but good faith errors in the initial testing and reporting by providers of second category program services – almost all of which are not providers of first category program services – are just as likely to occur among this group as will have occurred by providers of first category program services. The record reflects that a “test the testing” period is advisable and warranted for both program categories.<sup>39</sup>

Again here, by implementing all of the above recommendations regarding the timing and nature of initial testing of services in the second category programs, the first reporting for providers of services in this category could be due on the first day of the third calendar quarter following the calendar quarter where testing was required to commence.<sup>40</sup>

#### ***Further Guidance Regarding Certain Test Requirements Would Be Helpful***

Petitioners welcome the flexibility provided by the *Order* for providers to choose among three options for testing methods.<sup>41</sup> The *Order* further provides that the Bureau will issue further guidance by public notice regarding how providers will submit their testing data and certifications.<sup>42</sup> Petitioners would also appreciate the Bureau's elaboration on the specific requirements for each testing method, as well as furnishing of *sample* diagrams and test result formats for each testing method. Petitioners additionally believe that further guidance concerning the mechanics of testing in the midst of traffic load congestion is warranted.<sup>43</sup> All of

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<sup>39</sup> See, e.g., Letter from Joshua Seidemann, Vice President of Policy, NTCA, to Marlene Dortch, Secretary, FCC, WC Docket No. 10-90, at 2-3 (filed Mar. 21, 2019) (NTCA Mar. 21, 2019 *Ex Parte*); WTA Apr. 4 *Ex Parte* at 2 (advocating that rural LECs be “given a period of six months or more to engage in informal practice testing to discover and resolve potential equipment and procedural problems before being required to initiate formal performance testing and reporting”).

<sup>40</sup> To illustrate using the three scenarios depicted in note 33, *supra*, under the first scenario (initial A-CAM offer milestones), the first testing data reporting, covering the fourth calendar quarter of 2021 and first of 2022, would be due by July 1, 2022. Under the second scenario (revised A-CAM offer milestones), the first testing data reporting, covering the fourth calendar quarter of 2023 and first of 2024, would be due by July 1, 2024. Under the hypothetical third scenario (CAF II auction winner), the first testing data reporting, covering the second and third calendar quarters of 2023, would be due by January 1, 2024.

<sup>41</sup> See *Order*, 33 FCC Rcd at 6513, paras. 9-10.

<sup>42</sup> See *id.* at 6523, para. 67.

<sup>43</sup> Cf. NTCA Mar. 21, 2019 *Ex Parte* at 2 (discussing traffic load congestion caused by simultaneous testing to servers, and failures that occur when accumulated gigabit testing is delivered to a server). For example, while the *Order* provides for the cancellation of a test when “load check-and-retry” each minute during a test hour fails to yield a useable test, see *Order*, 33 FCC Rcd at 6519, para. 28, to the extent that testing hours are designed to capture peak periods, Petitioners are concerned that some test subjects could be, for instance, streaming video during the

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this further guidance would be helpful in the forthcoming Commission order, or in the public notice the Bureau is tasked with issuing. “How-to” webinars or other technically-focused outreach events would also be fruitful in addition to written guidance.

Please do not hesitate to contact any of the undersigned with any questions regarding this submission.

Respectfully submitted,

<i>/s/</i>	<i>/s/</i>	<i>/s/</i>
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entire testing window. If this real-world situation occurs repeatedly, providers will be left with insufficient test data from that test subject, or expend significant resources retesting the subject on different days until receiving sufficient useable test data. Elaboration on how to navigate situations such as this, and avoid these two unpalatable outcomes, would be useful.