

**Before the  
DEPARTMENT OF COMMERCE  
National Telecommunications and Information Administration**

**In the Matter of** )  
 )  
**Improving the Quality and Accuracy of** ) **Docket No. 180427421-8421-01**  
**Broadband Availability Data** )  
**and Other Automated Threats** )

**COMMENTS OF  
NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION**

The National Rural Electric Cooperative Association (“NRECA”) hereby submits its Comments in response to the Department of Commerce’s and National Telecommunications and Information Administration’s (“NTIA’s”) Request for Public Comment on actions to be taken to improve the quality and accuracy of broadband availability data, particularly in rural areas (the “Request”).<sup>1</sup> The Request implements the directive by Congress under the Consolidated Appropriations Act of 2018 to take the lead in the effort “to update the national broadband availability map in connection with the FCC and state resources.”

**INTRODUCTION**

NRECA is the national service organization for more than 900 not-for-profit rural electric cooperatives that provide electric energy to approximately 42 million people in 47 states or approximately 12 percent of electric customers, including 327 of the Nation's 353 "persistent poverty counties" (93%). Of the 42 million Americans served by cooperatives, an estimated 4 million live in persistent poverty counties. Rural electric cooperatives serve 88% of counties of the United States. Rural electric cooperatives were formed to provide safe, reliable electric service to their member-owners at the lowest reasonable cost. Rural electric cooperatives are dedicated to

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<sup>1</sup> 83 Fed. Reg 24747 (May 30, 2018).

improving the communities in which they serve; management and staff of rural electric cooperatives are active in rural economic development efforts. Electric cooperatives are private, not-for-profit entities that are owned and governed by the members to whom they deliver electricity. Electric cooperatives are democratically governed and operate according to the seven Cooperative Principles.<sup>2</sup>

NRECA and its members are intensely interested in the deployment of advanced telecommunications capabilities within the rural communities and areas in which electric cooperatives provide electric service.<sup>3</sup> In many of our members' communities, incumbent service providers do not offer broadband service that meets the current fixed broadband benchmark of 25 Mbps download and 3 Mbps upload, prompting many electric cooperatives to undertake the investments and commit the resources to deploy fixed broadband services within these communities. NRECA shares NTIA's view that broadband connectivity "is the conduit for economic and social opportunities for U.S. households and gate to increased productivity, growth and market access for businesses of all sizes."<sup>4</sup>

NRECA members submitted applications to participate in the CAF II reverse auction that the Federal Communications Commission ("FCC") will conduct beginning on July 24, 2018. We reasonably believe electric cooperative participation would have been higher, but for the FCC's approach to designating areas eligible for the auction. Accordingly, NRECA has a strong interest in developing a systematic, broadband mapping approach that discloses either actual or

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<sup>2</sup> The seven Cooperative Principles are: Voluntary and Open Membership, Democratic Member Control, Members' Economic Participation, Autonomy and Independence, Education, Training and Information, Cooperation Among Cooperatives, and Concern for Community.

<sup>3</sup> NRECA and its members are focused principally on fixed broadband service.

<sup>4</sup> Request at 24748.

planned broadband deployments, principally in rural areas and, preferably, based on the current 25/3 Mbps fixed broadband benchmark.

## COMMENTS

NRECA supports NTIA's efforts to improve broadband mapping for fixed broadband service. As the FCC recently noted, fixed broadband and mobile broadband services and networks meet distinct end-user requirements and the latter should not be viewed as a substitute for fixed broadband service, particularly in rural areas.<sup>5</sup> As widely acknowledged, a robust fixed broadband infrastructure is essential for advanced mobile broadband networks.<sup>6</sup> NRECA also believes that data collection and mapping should be required only for Broadband Internet Access Service ("BIAS"),<sup>7</sup> as opposed to all high-speed Internet access services. It is reasonable to assume that if BIAS is available for residential, small business and anchor institutions, higher capacity broadband service will be available for enterprise customers, as well.

NRECA concurs with NTIA's assessment that the Form 477 elicits responses from broadband services providers in a manner that seriously overstates the extent of available fixed broadband service, particularly in rural areas:

A provider offering service to any homes or businesses in a Census block is instructed to report that block as served in its Form 477 filing, even though it may not offer broadband services throughout most of the block. This can lead to overstatements in the level of broadband availability, especially in rural areas where Census blocks are large.<sup>8</sup>

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<sup>5</sup> *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, 2018 Broadband Deployment Report, 33 FCC Rcd 1660, 1666-1667 at ¶¶ 17-19 (2018).

<sup>6</sup> Remarks of FCC Chairman Ajit Pai at the Wireless Industry Infrastructure Association Connectivity Expo, Charlotte, NC, May 23, 2018 ("Of course, 5G infrastructure isn't just about small cells; it's all about backhaul. Densified networks will require much more fiber.")

<sup>7</sup> *Restoring Internet Freedom*, WC Docket No. 17-108, Declaratory Ruling, Report and Order, and Order, 33 FCC Rcd 311(2018), 318-321, n. 58 ("*Restoring Internet Freedom Order*").

<sup>8</sup> Request at 24748.

Unfortunately, this flaw in the Form 477 data (an entire census block is deemed served, if one location obtains 10/1 Mbps or greater service) was built into and provided the basis for including and excluding census blocks from the CAF II reverse auction.<sup>9</sup> From a “boots on the ground perspective” of several NRECA members whose electric service areas encompass or are adjacent to census blocks deemed “served” for purposes of the CAF II competitive auction, a substantial majority of locations in the excluded census blocks were not and are not served.<sup>10</sup> One Iowa electric cooperative whose electric service area is mostly rural farmland was stunned to learn the FCC considered the vast majority of its electric service area as being “served.”<sup>11</sup>

Historically, a meaningful, nationwide broadband data collection and mapping process was a substantial challenge. However, several actions taken by the FCC during the past year strongly suggest that more useful data will both become generally available and continue to be refreshed over time. The first is the Transparency Rule,<sup>12</sup> adopted by the Commission in its *Restoring Internet Freedom Order*.<sup>13</sup> The second is the recent order that establishes three methodologies that recipients of high-cost universal service support must use to report actual broadband speeds and latency metrics in areas in which they obtain support to provide fixed broadband services.<sup>14</sup>

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<sup>9</sup> *Connect America Fund et al.*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 5959, 5969, para. 59 (“Certified Form 477 data that indicate an area is served or unserved will supersede the conclusions reached in the Phase II challenge process that the Bureau conducted for the offer of model-based support”).

<sup>10</sup> Sam Bloch, *The FCC says all of Iowa has access to broadband internet. Speed tests tell a different story*, New Food Economy, June 20, 2018 <https://newfoodeconomy.org/rural-iowa-broadband-data-fcc/> (last visited on July 16, 2018 (analysis of internet speeds in some rural Iowa counties were well below what the FCC’s broadband map released in December 2017 and updated in February 2018 (setting the eligible areas for CAF II competitive auction) foreclosing these areas from the CAF II auction.)

<sup>11</sup> *Id.* (Due to Form 477 data showing counties within the service territory of an electric cooperative as being served, though refuted by independent test data, potential funding for rural broadband in the cooperative’s territories dropped from \$8.0M to \$56,000).

<sup>12</sup> 47 C.F.R. §8.1(a).

<sup>13</sup> “*Restoring Internet Freedom Order*, 33 FCC Rcd at 437-442 (2018).

<sup>14</sup> *In the Matter of Connect America Fund*, WC Docket No. 10-90, Order, DA 18-710, rel. July 6, 2018 (WCB), (WTB) and (OET) (“*Mandatory Testing Order*”).

The building blocks for a relevant broadband mapping tool that would accommodate periodic updates include the following:

1. Maps of Internet services providers' (ISPs') networks
2. Use of generally accepted or FCC required fixed broadband testing methodologies to determine actual download and upload speeds and latency measures for fixed broadband service
3. Scheduled updates for ISPs' broadband mapping reports

This approach would eliminate the “false positives” in classifying census blocks as served or unserved per the current Form 477 data and provide a more reliable, sustainable broadband availability map. Census block and road segment data could be used to complement and complete the broadband maps but would not be starting points or basic building blocks.

We believe our approach would also be less burdensome for ISPs, both initially and on an ongoing basis.

**Internet Services Providers' Networks.** Rather than develop maps from census block data, NRECA recommends that NTIA utilize the maps of the broadband networks developed by BIAS providers.<sup>15</sup> Every fixed broadband service provider has an intimate knowledge of its local network infrastructure, including its geographic boundaries and deployed technologies. Substantial amounts of capital are committed to these networks all of which are operated, maintained, and monitored to support consistent levels of service quality and to maintain network integrity. Presently, incumbent local exchange carriers (“ILECs”) large and small are currently assessing their networks as they transition from legacy TDM technologies to IP-based networks.<sup>16</sup> Cable operators are currently upgrading local cable networks to DOCSIS 3.1,<sup>17</sup> and

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<sup>15</sup> In these Comments, the use of the terms “broadband providers” and Internet Services Providers (“ISPs”) may be used interchangeably but are limited to services providers' BIAS offerings.

<sup>16</sup> *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, Second Report and Order, WC Docket No. 17-84, FCC 18-74, (rel. June 8, 2018).

<sup>17</sup> See e.g., Daniel Frankel, *Comcast rolls out DOCSIS 3.1 in Boston, preps to enter Philly and other East Coast locales*, Fierce Cable, (Jun 22, 2017, 12:49 pm) <http://www.fiercecable.com/cable/comcast-expands-docsis-3-1-footprint-entering-philadelphia-washington-and-other-eastern> (last visited on July 10, 2018).

cable operators typically operate fixed broadband service networks within their local cable franchise areas. Other ISPs, such as operators of municipal broadband networks, those operated by rate of return carriers, small cable operators, Wireless Internet Services Providers (“WISPs”), and rural electric cooperatives will have a limited number of local BIAS fixed broadband networks, but each will have a clear understanding and knowledge of the technologies deployed in their networks and the physical extent of their respective network service areas.

The building block for a nationwide broadband mapping scheme are the maps of the local distribution networks of these ISPs prepared using a generally accepted mapping format such as shapefiles or KML. Form 477 preparation is unnecessarily complicated. It requires filers to take data from ISP-created maps and submit it in a spreadsheet. These readily available depictions of deployed physical networks overcome the faulty assumption of “served” census blocks associated with the FCC Form 477 Reports. It makes sense to require ISPs to submit such maps. Doing so would provide more accurate information and be less burdensome for the filer.

There may be some carriers that do not currently create maps of their service territory and may lack the capability to do so at this time. The FCC or NTIA could provide technical assistance to such ISPs, especially in the initial years. The FCC or NTIA could also issue an RFP for a contractor to create these types of maps or provide the technical assistance needed to ISPs lacking the requisite expertise.

This proposed disclosure obligation should not raise proprietary concerns. As a fixed wireless broadband network is expanded, a cable operator’s local network upgraded, or new a FTTH deployment, ISPs begin marketing the service. At that time, the network information is in the public domain. Non-public plans or potential options under internal consideration at the time that a broadband deployment report is due would not be subject to disclosure. Such information

could be disclosed at the ISP's option. The only exception would be the unserved areas of recipients of Connect America Funds that either accepted state-wide offers or are reverse auction winners having deployment milestones and any other providers of fixed broadband service that are high-cost recipients subject to deployment milestones. These unserved areas would be noted separately in services providers' network maps.

The areas not included on ISPs' network maps would more accurately depict and identify the truly unserved areas of the United States. There would be no need to continue to rely on the suspect Form 477 assumption that if one location in a census block is served, all locations in the block are served. Census data could then be utilized to identify the unserved locations in areas outside of the service areas depicted on ISPs' network maps. Satellite broadband services operators are the only category of fixed broadband services providers that do not fit neatly within this model. These services providers likely would have to report the number of locations served by census block, excluding any areas for which satellite operators obtain high-cost support such as through the CAF II competitive auction or, in the future, under the Remote Areas Fund. The satellite operators would be required to supply maps of the census block groups for which they support recipients. Further, satellite operator reporting obligations could be limited to rural areas as NTIA may determine.

**Broadband Speed Data is Readily Available.** The Transparency Rule is premised on mandatory disclosure of sufficient information regarding an ISP's services to enable informed decisions by prospective customers.<sup>18</sup> The information this rule calls for provides an understanding of the service being offered and the ability to compare competitive offerings.

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<sup>18</sup> *Restoring Internet Freedom Order*, 33 FCC Rcd at 437-439, paras. 215-217 (“Critically, the transparency rule will ensure that consumers have the information to make informed choices about the purchase and use of broadband Internet access service, which promotes a competitive marketplace for those services”).

A BIAS provider must publicly disclose information about its network management practices, performance characteristics, and commercial terms of its broadband Internet access services, and publish this information on either a readily accessible web site or in a submission to the FCC. In regard to performance characteristics, an ISP must disclose (i) the technologies it is deploying to support the delivery of BIAS, such as fiber, fixed wireless, coaxial cable (DOCSIS X), satellite, or DSL, *and* the ISPs advertised and (ii) actual download/upload speeds and latency relying on generally accepted broadband testing methodologies.<sup>19</sup> Performance characteristics disclosed by the major ISPs consistent with the Transparency Rule provide a reasonable level of detail regarding advertised and actual broadband speeds and latencies with respect to various fixed broadband service technologies.<sup>20</sup> Importantly, the Transparency Rule applies to all BIAS providers; there are no exemptions or relaxed requirements for small or medium-sized providers.<sup>21</sup>

Earlier this month, the Wireline Competition and Wireless Telecommunications Bureaus and the Office of Engineering and Technology adopted a uniform framework for measuring the speed and latency for the fixed broadband services offered by recipients of high-cost support, including the CAF II competitive auction winners, Rural Broadband Experiment grantees, rate-of-return of carriers, and price cap carriers accepting state-wide offers.<sup>22</sup> The *Mandatory Testing Order* requires high-cost support recipients to use one of three methodologies to determine their

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<sup>19</sup> *Restoring Internet Freedom Order*, 33 FCC Rcd at 441, n. 818 (“Fixed ISPS that do not participate in the [Measuring Broadband America (MBA) program] may use the methodology from the MBA program to measure actual performance or may disclose actual performance based on internal testing, consumer speed data, or other data regarding network performance, including reliable, relevant data from third-party sources.”)

<sup>20</sup> See e.g. Comcast Network Management, Network Management Articles, “Your Broadband Internet Access Service Performance,”

[http://networkmanagement.xfinity.com/index.php?option=com\\_content&view=article&id=57](http://networkmanagement.xfinity.com/index.php?option=com_content&view=article&id=57), last viewed on July 9, 2018; and Verizon, Terms and Conditions, “Fios and DSL Performance”

<https://www.verizon.com/about/terms-conditions/fios-and-dsl-performance>, last viewed on July 9, 2018.

<sup>21</sup> *Restoring Internet Freedom Order*, 33 FCC Rcd at 227.

<sup>22</sup> *In the Matter of Connect America Fund*, WC Docket No. 10-90, Order, DA 18-710, rel. July 6, 2018 (WCB), (WTB) and (OET) (“*Mandatory Testing Order*”).

networks' fixed broadband service download and upload speeds and latencies. Among other matters, the Order prescribes the frequency of required testing over the course of a year and sets the time of day during which testing must be conducted.

Collectively, the Transparency Rule and the *Mandatory Testing Order* will require ISPs to generate data on delivered broadband speeds and latency measures within their networks. The Transparency Rule imposes less stringent broadband testing requirements as compared to the *Mandatory Testing Order*; however, this disparity may be more apparent than real and likely will fade in an abbreviated period. Assuming the major ISPs continue to reference one of the approved methodologies in their required online speed and latency disclosure statements under the Transparency Rule,<sup>23</sup> it is reasonable to assume that competing ISPs not subject to the *Mandatory Testing Order* will adopt one of its three approved testing methodologies and related rules to confirm the veracity and comparability of their published broadband speeds and latencies.

**Depicting Broadband Speeds on the Network Maps.** Posted broadband speeds and latencies required by the Transparency Rule likely will disclose a range of advertised broadband speeds for many ISPs. And, for the larger ISPs, broadband speeds will likely vary from one service area to another at a given point in time. To provide a measure of comparability, the network maps may have to be coded to depict ranges of speeds and latency metrics. One approach is to utilize the four performance tiers and two latency metrics that the FCC established in setting the weights for the CAF II competitive auction.<sup>24</sup> There were four performance tiers (usage minimums excluded): Minimum Tier ( $\geq 10/1$ Mbps), Baseline ( $\geq 20/3$  Mbps), Above

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<sup>23</sup> See footnote 20, above, citing the Verizon and Comcast BIAS download speeds and latencies in which each ISP references the use of the Measuring Broadband American methodology to determine reported broadband speeds.

<sup>24</sup> *Connect America Fund et al*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 5949, 5956-5057 (2016).

Baseline ( $\geq 100/20$  Mbps) or Gigabit ( $\geq 1$  Gigabit/500 Mbps). Two latency measures were adopted: Low Latency ( $\leq 100$  ms) and High Latency ( $\leq 750$  ms & MOS of  $\geq 4$ ). Whether weighted averages or median speeds or latencies and whether the latencies and speeds would be portrayed in combinations would have to be determined. Again, all areas subject to high-cost support buildout milestones not yet buildout would be depicted separately, utilizing the same approach.

**Timing for Initial Submissions.** It may be prudent to wait until sometime in 2020 for the initial submission of ISPs' network maps. This will provide time for OMB approval of *Mandatory Testing Order* and the submission of the initial year's testing results. Alternatively, a preliminary or test-case report based on six months of performance data could be utilized. This would allow ISPs to become familiar with the process and enable NTIA and its contractors to review and validate the maps and fine-tune the reporting process as warranted.

**Enforcement of Reporting Requirements.** Accurate data is a necessity for policymakers to bridge the digital divide. NRECA's proposals will lead to a better measurement of the truly unserved and underserved communities across the nation. However, a verification process will still be required for broadband data filings. A challenge process should be established to wring out over-aggregated data or overstated broadband speeds. NRECA believes an enforcement mechanism should be required to ensure providers submit accurate data. Periodic discrepancies between data and actual coverage reported by an ISP may well occur. Penalties should be considered for flagrant and repeated misreporting of broadband coverage data by ISPs. Any enforcement mechanism will require coordination between NTIA and the FCC. If necessary, a subsequent request for public comment should be issued to establish the enforcement mechanism.

## CONCLUSION

NRECA supports NTIA's initiative to develop a real-world, verifiable broadband map, particularly for rural areas of the country in which many communities are underserved in terms of broadband connectivity. We believe the proposal we have outlined that builds upon the FCC's Transparency Rule and *Mandatory Testing Order* offers a viable and sustainable means for achieving this objective with modest reporting burdens for ISPs. We look forward to working with NTIA in finalizing an updated broadband reporting process.

Respectfully submitted,

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