

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC 20554

In the Matter of	)	
	)	
Connect America Fund Phase II Auction	)	AU Docket No. 17-182
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
Comment Sought on Competitive Bidding	)	
Procedures and Certain Program Requirements for	)	
the Connect America Fund Phase II Auction	)	
(Auction 903)	)	
	)	

To: The Commission

**REPLY COMMENTS OF HUGHES NETWORK SYSTEMS**

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Hughes Network Systems, LLC (“Hughes”) submits these comments on the above-captioned Public Notice seeking additional information regarding procedures for the Connect America Fund Phase II (“CAF-II”) auction.<sup>1</sup> As discussed in more detail below, the record in this proceeding shows that parties are strongly interested in ensuring that there is broad participation in the CAF-II auction in order to maximize competition and value for the American consumer. The best way for the Commission to achieve this goal is to grant Hughes’s petition for reconsideration and revise the bid weights to reflect more closely the actual value that consumers place on factors such as speed, latency, and capacity (as revealed in new research that has been placed in the record). The Commission also should eliminate package bidding, increase the switching flexibility permitted to bidders from round to round, and modify the proposed short-form showings so that they are properly circumscribed and consistent across technologies.

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<sup>1</sup> *Comment Sought on Competitive Bidding Procedures and Certain Program Requirements For The Connect America Fund Phase II Auction (Auction 903)*, Public Notice, AU Docket No. 17-182, WC Docket No. 10-90, FCC 17-101 (rel. Aug. 4, 2017) (“Public Notice”).

**I. THE RECORD SHOWS STRONG SUPPORT FOR A COMPETITIVE AUCTION AND HUGHES’S PETITION FOR RECONSIDERATION WILL ADVANCE THAT GOAL**

**A. Commenters Support a Technology-Neutral Auction With Broad Participation**

Even among commenters that were critical of the Commission’s proposed procedures for the CAF Phase II auction, there is broad consensus that the rules should promote “participation by a large number of providers” in order to “achieve efficient outcomes.”<sup>2</sup> This aligns with the Commission’s stated goal “of making this auction as competitive as possible.”<sup>3</sup> Thus, the Commission should ensure that its auction procedures further advance the goal of a competitive auction that maximizes participation in order to obtain the greatest results for the American people.

**B. Granting Hughes’s Petition to Reconsider the Bidding Weights Will Promote a More Competitive Auction**

The strong support for ensuring a competitive auction militates in favor of granting Hughes’s pending petition for reconsideration to modify the bid weighting scheme in order to more fairly reflect the value that consumers actually place on speed, latency, and capacity. Since Hughes originally filed the petition, additional scholarly material has come into the record demonstrating the current bid weights do not reflect actual consumer valuations. For example, a paper recently released by Technology Policy Institute discusses the results of the authors’

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<sup>2</sup> ACA comments at 1. *See also* Rural Coalition comments at 7; RWA comments at 6; WISPA comments at 1. Unless otherwise noted, references herein to parties’ “comments” refer to initial comments in response to the Public Notice filed on or about Sept. 18, 2017.

<sup>3</sup> *Connect America Fund, et al.*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 5949, 5962 ¶ 33 (2016) (“*CAF-II Order*”).

empirical research on the relative value that consumers place on speed, bandwidth, and latency in purchasing broadband services.<sup>4</sup> The paper demonstrates that:

- Consumers are willing to pay an increment of less than \$10 per month for low-latency performance typical of wired broadband products as compared to the latency levels typical of satellite broadband.
- The incremental value that consumers place on broadband speed begins to drop precipitously above 50 Mbps, and is negligible above 100 Mbps.
- Household valuation of increased data caps is concave as caps increase from 300 GB to 1000 GB (although consumers place a significant premium on unlimited service).

This empirical information thus demonstrates that – just as Hughes argued in its pending petition for reconsideration<sup>5</sup> – the Commission adopted incorrect weights in the *CAF Weighting Order* by providing too great of a bidding advantage to high-speed, high-capacity, low-latency services.<sup>6</sup> The paper shows that the steep penalties that the *CAF Weighting Order* imposes on higher-latency services, and the great benefit it gives services in the Gigabit tier, do not reflect the actual values that consumers place on these characteristics.

Adjusting the bid weights to more reasonable levels requested by Hughes will not affect the work that the Commission has done to date on the auction procedures or software or otherwise delay the auction. The public notice seeking comment on the auction procedures treats

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<sup>4</sup> Yu-Hsin Liu, Jeffrey Prince, and Scott Wallsten, “Distinguishing Bandwidth and Latency in Households’ Willingness-to-Pay for Broadband Internet Speed,” Technology Policy Institute (Aug. 2017), available at <https://ecfsapi.fcc.gov/file/10919245952821/Distinguishing-Bandwidth-and-Latency-in-Households-Willingness-to-Pay-for.pdf>. Hughes was not involved in any way in commissioning or funding this paper or the research that underlay it.

<sup>5</sup> Petition for Reconsideration of Hughes Network Systems, LLC, WC Docket Nos. 10-90 and 14-58 (filed April 20, 2017) (“Reconsideration Petition”). Although one of the authors of the paper, Scott Wallsten, has consulted for Hughes in this proceeding, Hughes did not commission the paper and had no input into the underlying research or the drafting of the report.

<sup>6</sup> *Connect America Fund, ETC Annual Reports and Certifications*, Report and Order and Order on Reconsideration, 32 FCC Rcd 1624 (2017) (“*CAF Weighting Order*”).

the bid weight as a variable (“*T*”) in the auction bid processing formula.<sup>7</sup> There is therefore no reason to believe that adjusting the value of this variable will affect the auctions procedures or software.

The Rural Coalition opposes revisiting the bidding weights based on spurious assertions that it would delay the auction.<sup>8</sup> Actually, as noted above, changing the bidding weights would require simply changing numeric values in the Commission’s existing auction software and would result in no delay. The Rural Coalition’s asserted concern about delay is obviously nothing more than a pretext to protect the unfair advantage that the current bid weighting matrix grants to fiber-based providers, however, because the Rural Coalition also calls for the Commission to go back to the drawing board on the auction format<sup>9</sup> – which (unlike adjusting the bid weights) actually would introduce considerable delay in the auction.

A competitive, technology-neutral CAF-II auction will benefit all stakeholders, but it will particularly benefit the rural Americans that already have waited too long for broadband service. The Commission should reconsider the *CAF Weighting Order* without delay and adopt more reasonable bid weights, such as the 5 – 10 point increments proposed by Hughes in its earlier comments and in its Reconsideration Petition.<sup>10</sup>

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<sup>7</sup> *Comment Sought on Competitive Bidding Procedures and Certain Program Requirements for the Connect America Fund Phase II Auction (Auction 903)*, AU Docket No. 17-182, WC Docket No. 10-90, Public Notice, FCC 17-101 (rel. Aug. 4, 2017) at ¶ 79.

<sup>8</sup> Rural Coalition comments at 5.

<sup>9</sup> *Id.* at 7.

<sup>10</sup> *See, e.g.*, Reconsideration Petition at 5.

## **II. THE RECORD SUPPORTS ELIMINATION OF PACKAGE BIDDING**

There is broad opposition among commenters addressing package to the Commission's proposal to permit package bidding in the CAF-II auction.<sup>11</sup> As these commenters point out, the Commission has generally eschewed package bidding in its spectrum auctions precisely because of the added level of complexity it introduces for bidders and the Commission.<sup>12</sup> Other commenters express concerns that the Commission's package bidding proposal would introduce a level of complexity and inefficiency that could undermine the auction's ability to reach optimum outcomes.<sup>13</sup> For example, ACA introduces a paper from Dr. Peter Cramton, a noted auctions expert who has in the past supported permitting combinatorial bidding in Commission auctions, but argues that, in the CAF-II auction, permitting package bidding would introduce "complexity and bias."<sup>14</sup>

The record demonstrates that the Commission's proposal to permit package bidding in the CAF-II auction will undermine bidders' abilities to participate in the auction and the Commission's ability to administer it. The Commission should not permit package bidding.

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<sup>11</sup> See, e.g., ACA comments at 7; US Cellular comments at 4-11.

<sup>12</sup> US Cellular comments at 9-10.

<sup>13</sup> See, e.g., WISPA comments at 26 (package bidding a factor in contributing to inordinate complexity that will suppress competition); Rural Coalition comments at 7; USTelecom comments at 6-8 (requiring package bidders to specify a minimum scale percentage below 100% would overly complicate bidders' ability to assess bidding strategy).

<sup>14</sup> ACA Comments, attachment at 4.

### **III. THE COMMISSION SHOULD PROVIDE SUFFICIENT LATITUDE FOR EFFICIENT SWITCHING OF BIDS BETWEEN ROUNDS**

As Hughes pointed out in its comments, geographic switching between rounds permits bidders to maximize auction competitiveness.<sup>15</sup> As USTelecom observes, “efficiency gains arising from price discovery and truthful bidding [the asserted goals for the switching constraints] are partially or fully offset by efficiency losses arising from a bidder’s inability to substitute between areas in response to market conditions.”<sup>16</sup> USTelecom therefore proposes that the switching rules “be revised to capture the tradeoffs presented by switching – between price discovery, truthful bidding, and substitution – in a more sophisticated fashion” using a sliding scale of switching percentages that vary by round.<sup>17</sup> More switching would be allowed in early rounds, while switching would become more constrained in later rounds.<sup>18</sup>

USTelecom’s proposal is a step in the right direction, but it does not go far enough. The record does not reflect any evidence that permitting greater switching throughout the course of the auction would in any way undermine the integrity of the process. Hughes therefore urges the Commission to substantially increase the amount of switching flexibility permitted to bidders throughout the course of the auction.

### **IV. SHORT-FORM SHOWING REQUIREMENTS SHOULD BE CONSISTENT ACROSS BIDDERS AND PROPERLY CIRCUMSCRIBED**

The record raises some important questions about whether certain proposed elements of the short-form process would require higher showings from applicants proposing certain

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<sup>15</sup> Hughes comments at 8-9.

<sup>16</sup> USTelecom comments at 9.

<sup>17</sup> *Id.* at 9-10.

<sup>18</sup> *Id.*



technologies and whether certain proposed requirements are appropriate at the short-form stage. The Commission should address the proposed auction procedures to address these concerns.

First, the Commission needs to eliminate or clarify its proposed requirement that an applicant “demonstrate that its network could be engineered to deliver the required service to every location in the relevant census blocks.”<sup>19</sup> As Hughes pointed out in its initial comments, many if not all applicants will apply to be *eligible* to bid on a much broader set of potential areas than they ever would bid on at any one time.<sup>20</sup> No applicant is likely to win every area in which it potentially could provide service, and some areas where a given applicant could provide service may be more valuable to other applicants than others – and applicants have little or no visibility into these questions before the auction begins.

The relevant question, as Hughes pointed out, is “whether an applicant will be able to serve all customers who wish to subscribe *in the areas where the applicant is the winning bidder*.”<sup>21</sup> Neither applicants nor the Commission can know where any given applicant will be the winning bidder at the short-form stage. WISPA similarly observes that this proposed requirement would effectively require applicants to certify in their short forms to a requirement that, per the Commission’s rules, must be demonstrated by engineering certification in the long form.<sup>22</sup> This requirement would be both impracticable and inappropriate at the short-form stage.

For similar reasons, the Commission should not adopt the Rural Coalition’s proposal to require satellite providers to identify the total capacity of their satellites and the number of

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<sup>19</sup> Public Notice at ¶ 36.

<sup>20</sup> Hughes comments at 6.

<sup>21</sup> *Id.*

<sup>22</sup> WISPA comments at 11-12.

locations that the applicant can serve in a given service tier given its total capacity.<sup>23</sup> First, it is unclear how the Commission would enforce such a limit in the bidding process even if it required this information from bidders. Second, and more importantly, the Rural Coalition’s assertion that satellite providers are “unique” in facing a trade-off in speed and capacity with increasing numbers of users on their networks is incorrect.<sup>24</sup> All broadband networks face such constraints to some degree, and all spectrum-based networks face them to a material degree. These issues can be addressed in all networks through some form of “node-splitting” – dividing the available capacity over a smaller number of users. Just as terrestrial wireless providers can deploy smaller cells, satellite providers can deploy more spot beams, either using existing spacecraft or new ones. As Hughes pointed out, it will be launching an additional broadband satellite in 2021, early in the support term, and may bring additional satellites into service during the next decade. If fiber-based applicants can satisfy their showing with mere schematics for imaginary networks that they have not yet built, there is certainly no reason that a satellite provider should not be able to satisfy its showing based on a licensed satellite that is actually under construction. In fact, the showing proposed by the Rural Coalition would not provide the Commission with any useful information; it would simply impose an artificial constraint on satellite providers’ ability to bid effectively in the auction and hand another artificial advantage to fiber-based providers such as the Rural Coalition’s members. The Commission must not accede to this inappropriate request.

WISPA also raises good questions about the scope of proposals to require applicants using spectrum to demonstrate “whether the applicant is expected to be reasonably capable of

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<sup>23</sup> Rural Coalition comments at 20-21

<sup>24</sup> *Id.* at 20.

meeting the public interest obligations of each performance tier and latency combination that it selected in its application.”<sup>25</sup> Hughes has no objection to identifying the licenses that it currently holds, spacecraft it currently uses, and other spectrum bands that it may use during the term of support. However, the Commission must ensure that its inquiry at the short-form stage remains appropriately circumscribed. The Commission should not allow applicants to bid who have not provided any evidence that they could possibly meet the public interest obligations. But it is not the role of the Commission at the short-form stage to determine the finer points of how applicants may engineer their networks. It is also, as WISPA points out, inappropriate to engage in this sort of exacting review only for spectrum-based applicants.<sup>26</sup> The Public Notice does not propose to require fiber-based short-form applicants to demonstrate access to rights-of-way or utility poles, although both of these factors can become significant impediments to an applicant’s ability to construct a network to serve particular locations.<sup>27</sup> The short-form showings required must demonstrate a consistent degree of skepticism in applicants using all types of technologies.

Finally, while Hughes recognizes the importance of the short-form process for establishing applicants’ eligibility to participate in the auction, WISPA raises a number of questions about whether highly subjective questions are appropriate.<sup>28</sup> Hughes urges the Commission to review its proposed short-form questions to ensure that the Commission can assess them in an objective and equitable way.

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<sup>25</sup> WISPA comments at 14-15.

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> *See* WISPA comments at 8-10.

**V. CONCLUSION**

Hughes urges the Commission to modify its proposed auction procedures consistent with these recommendations, and move forward with the CAF-II auction without further delay.

Respectfully submitted,

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