Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
Connect America Fund Phase II Auction	)	AU Docket No. 17-182
	)	

To: The Commission

COMMENTS OF HUGHES NETWORK SYSTEMS, LLC

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COMMENTS OF
HUGHES NETWORK SYSTEMS, LLC

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 auction.[1]

I. SATELLITE BROADBAND PROVIDERS ARE ESSENTIAL TO THE CONNECT AMERICA FUND'S ABILITY TO MEET THE BROADBAND NEEDS OF MORE UNDERSERVED AMERICANS.

Hughes is the largest satellite broadband provider in North America, serving over one million consumers. Rural, remote, and tribal areas, where terrestrial broadband infrastructure can be prohibitively expensive to deploy or install, have been long left behind by terrestrial broadband providers, but satellite broadband providers such as Hughes digitally integrate those underserved communities and provide their residents with quality and cost-effective Internet services.[2]

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[1] *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"), http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0807/FCC-17-101A1.pdf.

[2] *See, e.g.*, *Ex Parte* Letter from Jennifer A. Manner, Vice President, Regulatory Affairs, Hughes Network Systems, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90 at 1 (filed Oct.

Satellite broadband is a dynamic and competitive product, and Hughes continues to invest significant resources into innovations that will provide even greater capacity and higher speeds to its U.S. satellite broadband consumers. In March 16, 2017, with its deployment of EchoStar XIX, the world's highest-throughput satellite, Hughes became the first and only U.S. satellite Internet service to offer FCC-defined broadband speeds across the continental United States. In a very short time, more than 300,000 of its customers in the U.S. were already receiving service at the increased speeds and this number continues to steadily increase.

As a result of EchoStar XIX, Hughes is able to offer more than double the capacity of its previous two-satellite configuration and deliver broadband-defined speeds of 25/3 Mbps for residential users and 55/5 Mbps for enterprise users across the continental United States. Hughes is also currently developing a new satellite with Space Systems Loral, due to launch in early 2021, which will further increase speeds and capacity.[3] Dubbed EchoStar XXIV/JUPITER 3, this Ultra High Density Satellite will provide residential and commercial Internet and data services, including in-flight Internet and network backhaul for remote cellular towers. Other providers are also poised to deploy new upgraded satellites that will further increase capacities and speeds and expand the footprint of next-generation satellite services.[4]

9, 2015) ("[P]rice[] … []and the lack of inside wiring in prefabricated/modular homes[] often lead[s] consumers to choose satellite broadband service – even where cable broadband service is available.").

[3] Gallagher at 1; Kendall Russell, *SSL to Build Hughes' Next-Gen Ultra High Density Satellite*, Satellite Today (Aug. 9, 2017), http://www.satellitetoday.com/telecom/2017/08/09/ssl-build-hughes-next-gen-ultra-high-density-satellite/.

[4] *See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 15-191, 2016 Broadband Progress Report, 31 FCC Rcd 699 at note 155 (2016) ("2016 Broadband Progress Report") (discussing the upcoming satellite deployment plans of Hughes, ViaSat, and O3b). ViaSat, for example, launched ViaSat-2 on June 1, 2017, and it expects to be able to provide services by 2018 at

These strategic investments in greater satellite capacity, rising upload/download speeds, expanding coverage across the continental United States, and advancements in network engineering have made satellite broadband internet an excellent, competitive offering for its customers.[5] As the Commission has noted, over 80% of satellite broadband subscribers experience actual download speeds exceeding the advertised speed.[6] It is therefore unsurprising that satellite broadband customers are just as satisfied as the customers of other types of broadband providers.[7] Coupled with unrivaled coverage across the continental United States, less costly infrastructure requirements, and fewer regulatory barriers to deployment than terrestrial broadband, satellite broadband services play an integral role in digitally integrating the most inaccessible and underserved communities in the country.

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speeds in excess of the FCC's current benchmarks. *See ViaSat Announces First Quarter Fiscal Year 2018 Results*, Cision (Aug. 8, 2017), http://www.prnewswire.com/news-releases/viasat-announces-first-quarter-fiscal-year-2018-results-300501439.html.

[5] *See HughesNet Gen5 High-Speed Satellite Internet Service Now Available via GSA Schedule*, Yahoo! Finance (Mar. 30, 2017), http://finance.yahoo.com/news/hughesnet-gen5-high-speed-satellite-130000395.html. *See also* Andrew Burger, *HughesNet Claims First FCC Broadband Defined 25 Mbps Satellite Broadband Service*, Telecompetitor (Mar. 7, 2017), http://www.telecompetitor.com/hughesnet-claims-first-fcc-broadband-defined-25-mbps-satellite-broadband-service/.

[6] *2015 Measuring Broadband in America: A Report on Consumer Fixed Broadband Performance in the United States*, FCC at 16, 33 (2015) ("2015 Measuring Broadband Report"), http://data.fcc.gov/download/measuring-broadband-america/2015/2015-Fixed-Measuring-Broadband-America-Report.pdf.

[7] Letter from Jennifer A. Manner, Vice President, Regulatory Affairs, Hughes Network Systems, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90 (filed Oct. 26, 2015), *attached to* Letter from L. Charles Keller, Attorney for Hughes Network Systems, Inc. to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90 (filed Oct. 26, 2016); Comments of ViaSat, Inc., WC Docket Nos. 10-90, 14-58, 14-259, at 5-6 (filed July 21, 2016) ("ViaSat CAF Comments") ("ViaSat's satellite broadband service … now has an overall user satisfaction rating that is on par with that of leading cable-based broadband service providers").

II. A TECHNOLOGY NEUTRAL APPROACH WILL BEST ACHIEVE THE GOALS OF CAF PHASE II BY ENCOURAGING PROVIDER PARTICIPATION AND COMPETITION TO DELIVER QUALITY SERVICES AT REASONABLE COSTS.

The National Broadband Plan proposed, and the *USF/ICC Transformation Order* adopted, an approach of allowing the market to help identify the provider that will serve the area at the lowest cost.[8] As now-Chairman Pai explained, the Commission's goal in the Connect America Fund is "to maximize the broadband bang we get for our universal service buck by establishing a flexible weighting system that should incentivize carriers to deploy faster service to rural America at the lowest possible price to the taxpayer."[9] The Commission, under the Connect America Fund Order, is further obligated to ensure that program will distribute the funding based on "technology neutral standards"[10] that "reflect the diversity of broadband offerings in the marketplace" and "maximize the number of consumers served within [the] finite budget."[11] In short, the Commission was required to maximize provider participation, without regard to technology, to engender robust competition among providers and platforms, and to help ensure that unserved or underserved areas are served by the most efficient providers.[12]

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[8] *USF/ICC Transformation Order*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 ¶ 179 (2011), *aff'd sub nom. In re FCC 11-161*, 753 F.3d 1015 (10th Cir. 2014).

[9] *Connect America Fund; ETC Annual Reports and Certifications*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 5949 at 6109- 10 (Statement of Commissioner Ajit Pai, Approving in Part and Concurring in Part), https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-64A1_Rcd.pdf.

[10] *Connect America Fund, et al.*, WC Docket Nos. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 5949, 5956 ¶ 14 (2016) ("Phase II Auction Order" or "Phase II Auction FNPRM," as appropriate).

[11] *Id.* at 5957 ¶ 16.

[12] *Connect America Fund, et al.*, Report and Order and Order on Reconsideration, 32 FCC Rcd 1624,1665 (Statement of Chairman Ajit Pai) (The auction weights are "designed to give every bidder—no matter what technology they use—a meaningful opportunity to compete for federal funds, while ensuring the best value for the American taxpayer.").

As Commissioner O'Rielly has observed, government support for broadband deployment "should be done in a way that does not harm competition in the marketplace, [and] prevents bureaucrats from picking winners and losers."[13] Moreover, implementing a regulatory framework that "stress[es] technology neutral approaches to broadband connectivity" will have the more equitable result of delivering "comparable service[s] across the nation," as Commissioner Clyburn has recently observed.[14]

Perhaps most significantly, this is the only approach that will lead to an economically efficient outcome. In the words of Commissioner O'Rielly: "if the bidding process "skews the results such that a few communities receive Gigabit service, but many more have no access at all, the auction will have failed to deliver on the promise of universal service."[15] Because of their unique cost structure, satellite broadband providers are a crucial piece of the universal service puzzle to ensure that the limited CAF budget does not leave an excessive number of Americans unserved. It is important for the auction procedures to support this approach.

III. HUGHES GENERALLY SUPPORTS THE PROPOSED APPLICATION REQUIREMENTS

In the Public Notice, the Commission sets forth a fundamentally sound application process to "help promote an effective, efficient, and fair auction."[16] Hughes supports the basic framework proposed in the Public Notice, including the requirement that bidders identify at the

[13] Commissioner Michael O'Rielly, *Federal Broadband Infrastructure Spending: Potential Pitfalls*, FCC (Feb. 1, 2017) ("O'Rielly Blog Post"), https://www.fcc.gov/news-events/blog/2017/02/01/federal-broadband-infrastructure-spending-potential-pitfalls.

[14] *Commissioner Mignon Clyburn's #Solutions2020 Call to Action Plan – FINAL*, Public Notice (Mar. 27, 2017), http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0327/DOC-344081A1.pdf.

[15] *See Phase II Auction Order*, 31 FCC Rcd at 6111 (Statement of Comr. O'Rielly).

[16] Public Notice at ¶ 15.

outset the states in which they intend to bid and limiting one affiliated entity to bidding in each state.[17]

It is appropriate for the Commission to require bidders to submit operational information to permit the staff to ascertain whether bidders actually can meet the requirements of the tier in which they propose to bid.[18] Staff should be directed, however, to review the information with an eye to identifying clear cases of misrepresentation. Applicants will understand their business models and technologies better than Commission staff, and the Commission should not reject applicants' proposals absent clear indications that they are incorrect.

The Public Notice seeks comment on proposals that the applicant's network could be engineered to serve 95 or 100 percent "of the required number of locations."[19] The relevant factor, however, 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*. An applicant may indicate its interest in bidding across a much larger area than it could serve, knowing that it will only be in the winning bidder in a subset of those locations. Moreover, determining up front the precise number of particular locations across the country that a bidder could serve can be a complex undertaking, particularly in the satellite context. For all these reasons, it would be counterproductive for the Commission to require applicants to demonstrate their ability to serve all of the areas they identify in their short forms, nor for the staff to undertake a review of an applicant's ability to serve particular areas.

[17] Public Notice at ¶¶ 19-28.

[18] Public Notice at ¶¶ 33-35.

[19] Public Notice at ¶ 36.

IV. CAF BIDDERS SHOULD BE ABLE TO INCLUDE SPECTRUM IN THE PIPELINE FOR BROADBAND USE, INCLUDING THE V AND Q BANDS FOR SATELLITE BROADBAND.

The *Public Notice* proposes to require all applicants using spectrum-based services, such as satellite providers, to indicate the spectrum bands they will use "for last mile, backhaul, and any other parts of the network."[20] In Appendix B, the Commission has further identified the spectrum bands that it anticipates "could be used for the last mile to meet Phase II obligations," including the Ka and Ku Bands for satellite providers, and has sought comment on whether other bands "provide sufficient uplink or downlink bandwidth to support the wireless technologies that a provider may use to meet … the various performance tier and latency combination qualifications."[21] Because the "V"[22] and "Q"[23] band spectrum (collectively, "V/Q band spectrum") would support satellite broadband services that could be used for CAF Phase II, the Commission should include the V/Q band in the auctions PN.

The V/Q-band spectrum has been generally allocated for fixed or mobile terrestrial and satellite use. However, it is currently subject to little or no existing government or commercial

[20] Public Notice at ¶ 39. ("We propose that an applicant (i) identify the spectrum band(s) it will use for last mile, backhaul, and any other parts of the network; (ii) describe the total amount of uplink and downlink bandwidth (in megahertz) that it has access to in such spectrum band(s) for last mile;69 (iii) describe the authorizations it has obtained to operate in the spectrum, if applicable; and (iv) list the call signs and/or application file numbers associated with its spectrum authorizations").

[21] *Id.* at ¶ 40 & App. B.

[22] The FCC typically refers to the V-band as spectrum in the 36-51 GHz band, and the term is commonly used in technical standards such as IEEE to include spectrum up to 75 MHz. *See, e.g., Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band; Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0-38.0 GHz and 40.0-40.5 GHz for Government Operations*, First Report and Order, 13 FCC Rcd 24649, 24651 para. 2 (1999) (*V-Band First Report and Order*).

[23] The International Organization for Standardization (ISO) recognizes the Q-band as spectrum in the 36-46 GHz band.

operations, making it greenfield spectrum ripe for use in satellite broadband deployments. Hughes' under construction Jupiter 3 satellite will operate in these bands bringing even higher speeds and greater capacity throughout the United States than what is available today. Because these bands represent enormous possibility for broadband providers, the Commission should list V/Q-band spectrum among the bands that providers intend to use to meet their Phase II obligations.

V. THE AUCTION PROCEDURES SHOULD ALLOW SUFFICIENT GEOGRAPHIC SWITCHING FROM ROUND TO ROUND IN ORDER TO ENSURE A MORE COMPETITIVE AUCTION.

The Public Notice proposes that a bidder be limited in its ability to switch to bidding for support in different areas from round to round to 10 percent ("switching percentage"), and it further proposes to prohibit switching after the budget clears.[24] Auction procedures should be tailored to "promote the orderly collection of bids across rounds and limit undesirable strategic bidding,"[25] while taking care to impose no unreasonable constraints upon competition. Hughes concedes that the proposal to use 10 percent as a baseline is appropriate and should allow bidders the flexibility that they need to bid efficiently. However, the prohibition on switching between bidding rounds is problematic.

Although the Public Notice focuses on the need to restrict geographic switching in order "to encourage bidders to express their bidding interests early and sincerely,"[26] switching, in fact, permits bidders to better maximize auction competitiveness. Bids should reflect up-to-date and

[24] Public Notice at ¶¶ 99, 101.

[25] *See* Public Notice at ¶ 98.

[26] *See id.*

reliable information about the level of bidding across the various geographic areas in the auction, so it is crucial for bidders to be able to switch geographic areas between rounds.

VI. CONCLUSION

Based upon the foregoing, Hughes respectfully requests that the Commission include these suggestions in the auctions procedures public notice. This will allow CAF Phase II to bring the benefits of FCC-defined broadband speeds to more consumers and leave fewer American homes in rural and remote areas on the wrong side of the digital divide.

Respectfully submitted,

By: _____/s/_____

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