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EX PARTE OR LATE FILED

November 13, 2015

Accepted / Filed

BY HAND

NOV 13 2015

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 Twelfth Street, SW  
Washington, DC 20554

Federal Communications Commission  
Office of the Secretary

Re: *Hughes Network Systems ex parte submission – CAF Phase II competitive bidding process (WC Docket No. 10-90)*

**CONFIDENTIAL INFORMATION - SUBJECT TO THIRD  
SUPPLEMENTAL PROTECTIVE ORDER IN WC DOCKET NO. 10-  
90 BEFORE THE FEDERAL COMMUNICATIONS COMMISSION**

Dear Ms. Dortch:

Hughes Network Systems (“Hughes”) submits the attached filing in connection with the Commission’s consideration of the Connect America Phase II competitive bidding process. The submission includes “Licensed Materials” subject to the Third Protective Order in the above-referenced docket, and the filing is made consistent with the requirements of that document.<sup>1</sup>

Please direct any questions regarding this filing to undersigned counsel.

Sincerely,



L. Charles Keller

Enclosures

No. of Copies rec'd 0+1  
List ABCDE

<sup>1</sup> *Connect America Fund*, WC Docket No. 10-90, Third Supplemental Protective Order, 27 FCC Rcd 15277 (WCB 2012).

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PROTECTIVE ORDER IN WC DOCKET NO. 10-90 BEFORE THE FEDERAL  
COMMUNICATIONS COMMISSION**

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PUBLIC INSPECTION**

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Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 Twelfth Street, SW  
Washington, DC 20554

Re: Written ex parte presentation – Hughes Network Systems; CAF Phase II  
Competitive Bidding (WC Docket No. 10-90) – **Includes  
CONFIDENTIAL MATERIAL SUBJECT TO THE THIRD  
SUPPLEMENTAL PROTECTIVE ORDER IN WC DOCKET NO. 10-  
90 BEFORE THE FEDERAL COMMUNICATIONS COMMISSION**

Dear Ms. Dortch:

This filing on behalf of Hughes Network Systems (“Hughes”) builds on Hughes’s previous filings in this docket in connection with the Commission’s consideration of criteria for participation in the Connect America Fund (“CAF”) Phase II competitive bidding process. This filing includes information that is subject to the Third Supplemental Protective Order in this proceeding.<sup>1</sup> As discussed below, Hughes provides a study that demonstrates that the Commission must ensure that the rules adopted for the CAF Phase II competitive bidding process encourage the broadest possible participation by a range of different types of broadband service providers, including satellite broadband providers and allow service to a large number of American consumers. Hughes also provides concrete suggestions for a framework for evaluating bids from different technologies that gives appropriate weight to different service characteristics and bid levels.

**CostQuest Study.** Attached is a study by CostQuest Associates (“CostQuest”) which further demonstrates the importance of ensuring that satellite broadband providers have an equitable opportunity to compete to serve customers in the CAF Phase II competitive bidding

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<sup>1</sup> *Connect America Fund*, WC Docket No. 10-90, Third Supplemental Protective Order, 27 FCC Rcd 15277 (WCB 2012).

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process, and that no subset of bidders should be entitled to bid above a “reserve price” set at or below the model-determined support amount for a given area.<sup>2</sup> Excluding lower-cost broadband providers, including satellite broadband providers, and/or allowing some bidders to proffer bids above the model-based support amount, will exhaust the available funds well before all eligible locations are reached. This would mean that CAF Phase II will leave significant numbers of Americans in rural and high-cost areas without support to ensure they receive broadband service. Such a result would be contrary to the Commission’s goals in this proceeding.<sup>3</sup>

The study analyzes six different scenarios based on information from the Commission’s Connect America Cost Model (“CACM”) and addresses the areas that are slated to be included in the CAF Phase II competitive bidding process – the areas where the price cap incumbent declined the model-based offer of support and those where the cost of service was above the very high-cost threshold. The study assumes that the amount of support available in the auction is equal to the amount of funding declined by the price cap incumbents plus the \$100 million in annual support that was set aside for the Remote Areas Fund (“RAF”). The scenarios make a variety of assumptions about winning bid levels in the competitive bidding process and demonstrate the impact of different winning bid levels on the number of customers receiving service as a result.

The study shows the importance of ensuring that customers in CAF Phase II are served as efficiently as possible. First, the study shows that, given the amount of support available, ensuring service to all of the eligible customers requires an average amount of support per line in the range of \$254 – \$█ per year.<sup>4</sup> This is a small amount of support, and well below the model-determined support levels, compellingly showing the importance of allocating CAF Phase II support efficiently.

In addition, the study shows that if all bids in the auction come in at the model-based support amount, only between █% and █% of customers will receive support – a small

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<sup>2</sup> See Letter from Jennifer A. Manner, Hughes, to Marlene H. Dortch, FCC, WC Docket No. 10-90 (filed Oct. 26, 2015) at 1; letter from L. Charles Keller, counsel to Hughes, to Marlene H. Dortch, FCC, WC Docket No. 10-90 (filed Oct. 19, 2015) at 1.

<sup>3</sup> See, e.g., *Connect America Fund, et al.*, WC Docket Nos. 10-90 *et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17668 ¶ 5 (2011) (“*USF/ICC Transformation Order*”), *aff’d sub nom. In re: FCC 11-161*, 753 F.3d 1015 (10th Cir. 2014) (“The universal service challenge of our time is to ensure that all Americans are served by networks that support high-speed Internet access—in addition to basic voice service—where they live, work, and travel.”).

<sup>4</sup> Because the Commission has not clarified a number of issues related to the number of locations that remain available in the areas where the incumbent price cap carriers declined model-based support (described in the study), there are three possible sets of results for each scenario. Although the specific results vary depending on how these issues are resolved, the basic trends and conclusions that can be drawn from the numbers do not.

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percentage of potential beneficiaries. The Commission will be unable to ensure service to the remaining customers – potentially more than [REDACTED] the eligible locations available in the bidding process. This shows the importance both of not allowing bids to go above the model-based level, and taking aggressive steps to ensure that more efficient providers are able to participate in the auction to bring bid levels down below model-determined levels.

Moreover, the study demonstrates the benefit of creating circumstances where the bids in the very high-cost areas are well below the model-based support level. Specifically, if all bids outside the very high-cost areas come in at the model-based level, then the amount of support available for the very high-cost locations will be only \$ [REDACTED] per location per year – a very low number to serve the highest-cost and hardest-to-serve locations – depriving many users of access to critical broadband services. Moreover, if bids in the very high-cost areas are capped at \$1,500 per line per year (a randomly selected number below the average cost in these areas) and bids in the other areas remain at model-based levels, the percentage of eligible locations receiving service increases by about [REDACTED] percentage points (from about [REDACTED]% to about [REDACTED]%)<sup>5</sup> as compared to the scenario where all bids are at model-based levels – resulting in significantly fewer customers left without any support for broadband service under CAF Phase II.

Finally, the study shows that if the winning bids for any significant number of locations are above the model-determined support amount, significantly more customers will remain unserved. For example, even if support in the very high-cost areas is held to \$1,500 per line, if only the lowest-cost 40 percent of locations are bid at 200% of the model-based support amount, the number of customers receiving service falls by about [REDACTED] percentage points (from about [REDACTED]% to about [REDACTED]%)<sup>6</sup> as compared to the scenario where all bids are at model-based levels. Further, if a random sampling of bids comes in at 200% of model-based levels, the number of customers served falls to between [REDACTED]% and [REDACTED]%. In other words, under this scenario, less than [REDACTED]% of covered locations might receive service under CAF Phase II.

The results of this study show that the Commission must ensure that the rules for the CAF Phase II competitive bidding process encourage the broadest possible participation by a range of different types of broadband service providers, including satellite broadband providers. Broader participation will help ensure a more competitive bidding process, lower bids, and fewer customers left without support. It also shows that no group of bidders – particularly those using a high-cost technology such as fiber – should be allowed to bid above the model-based support level. Hughes strongly encourages the Commission to adopt CAF Phase II rules consistent with these principles.

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<sup>5</sup> As noted above, the precise output depends upon the assumption set selected.

<sup>6</sup> Again, the output depends upon the assumption set selected.

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**Criteria for Bid Evaluation.** Hughes also takes this opportunity to provide a proposal for technology-neutral criteria to evaluate bids from providers with different service characteristics. As Hughes previously has demonstrated, consumers value a variety of different qualities when they select a broadband service provider.<sup>7</sup> As a result, the competitive bidding structure similarly should place reasonable weights on the relevant factors, including speed, latency, and capacity constraints. Of course, a significant factor also must be the subsidy level at which the provider is willing to provide service. Consistent with the principles that the Commission set out in the National Broadband Plan and the *USF/ICC Transformation Order*, the CAF must ensure that the highest-cost areas are served with more efficient technology to avoid an excessive contribution burden on all American consumers.<sup>8</sup>

Hughes therefore proposes that all CAF Phase II bids be reviewed using a weighting structure in which (1) proposed speed; (2) latency of the service; (3) capacity constraints; and (4) proposed subsidy level are equally weighted (i.e., each is weighted 25 percent) in the evaluation of bids. This approach is superior to placing bidders in arbitrary priority tiers based on the technology used or the characteristics of that technology. Hughes proposes that the Commission implement this weighting structure by establishing a system of points for performance within each factor. For simplicity, each factor could be assigned 25 points, for a total of 100 points. The Commission should use available data such as the Measuring Broadband America (“MBA”) Report to establish the point system for each factor.

For example, the most recent MBA Report expresses data speed performance in five tiers – 1-5 Mbps; 6-10 Mbps; 12-15 Mbps; 18-25 Mbps; and 30-75 Mbps.<sup>9</sup> Each tier could be assigned 5 points, as follows:

SPEED	
Proposed speed in bid	Points
30-75 Mbps	25
18-25 Mbps	20
12-15 Mbps	15
6-10 Mbps	10

<sup>7</sup> See, e.g., Prof. Andre Boik, U.C. Davis, “The Economics of Universal Service: An Analysis of Entry Subsidies for High Speed Broadband,” attachment to letter from L. Charles Keller, counsel to Hughes, to Marlene H. Dortch, FCC, WC Docket No. 10-90 (filed Oct. 9, 2015).

<sup>8</sup> NATIONAL BROADBAND PLAN at 150 (Rec. 8.13); *USF/ICC Transformation Order*, 26 FCC Rcd at 17675 ¶ 30; see also *id.* at 17728 ¶ 168 (the FCC must balance its “desire to extend robust, scalable broadband to all Americans with [a] recognition that the very small percentage of households that are most expensive to serve via terrestrial technology represent a disproportionate share of the cost of serving currently unserved areas.”).

<sup>9</sup> FCC, 2014 MEASURING BROADBAND AMERICA FIXED BROADBAND REPORT: A REPORT ON CONSUMER FIXED BROADBAND PERFORMANCE IN THE U.S. (2014) (“MBA Report”) at 28-30.

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1-5 Mbps	5
<1 Mbps	0

With regard to usage, the Commission could begin with the current CAF standard of 100 GB, and assign the full 25 points to any bids meeting or exceeding this threshold. Further, the MBA data show that the 50<sup>th</sup> percentile of data usage for customers of terrestrial fixed broadband services ranges from approximately 25-50 GB,<sup>10</sup> and that the 90<sup>th</sup> percentile for such users ranges from 5-15 GB. These data suggest that the following would be a fair point allocation:

USAGE/CAPACITY	
Proposed Usage Limit in Bid	Points
100 GB	25
50 GB	50
20 GB	15
15 GB	10
5 GB	5
<5 GB	0

For latency, the MBA data show that terrestrial fixed services experience latency in the 24-63 ms range, while satellite broadband services experienced latency in the 671 ms range due to the physical constraints of the service.<sup>11</sup> The data also show that latency is slowly increasing year over year across all technologies.<sup>12</sup> Hughes therefore proposes that offerings able to provide the current CAF standard for latency (200 ms) should receive the full allocation of 25 points, while services able to meet a 800 ms standard should receive 20 points. Services with latency above 800 ms should receive 0 points.

In order to weight the subsidy level or bid amount, Hughes proposes that the Commission consider the extent to which the bid is below the model-determined support amount. Until the bidding occurs, it is difficult to predict the extent to which bidding will be below the model-determined support levels. Hughes therefore proposes that, once the Commission receives bids, the Commission should consider (1) the maximum extent to which bids are below model-determined amounts and (2) the distribution of bid levels relative to model-determined support amounts, and set a reasonable allocation of points in light of these considerations.

In sum, in order achieve its goals of extending broadband service to all Americans without unduly burdening contributors to universal service, the CAF Phase II bidding structure must encourage broad participation in a truly competitive auction in which more efficient

<sup>10</sup> *Id.* at 50-51.

<sup>11</sup> *Id.* at 35.

<sup>12</sup> *Id.*

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technologies such as satellite have a realistic chance of being the winning bidders in the highest-cost areas that they are best-equipped to serve. The Commission can do this by avoiding priority tiers of bidders and instead applying a bid weighting structure that equally weights speed, latency, capacity, and subsidy (bid) level.

Sincerely,

WILKINSON BARKER KNAUER, LLP



---

L. Charles Keller

Enclosure

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2015

## CAFII Funding Analysis

COSTQUEST ASSOCIATES | ECONOMIC RESEARCH & ANALYSIS

CONFIDENTIAL INFORMATION – SUBJECT TO THIRD SUPPLEMENTAL PROTECTIVE ORDER IN WC  
DOCKET NO. 10-90 BEFORE THE FEDERAL COMMUNICATIONS COMMISSION

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CONFIDENTIAL INFORMATION – SUBJECT TO THIRD SUPPLEMENTAL PROTECTIVE ORDER  
IN WC DOCKET NO. 10-90 BEFORE THE FEDERAL COMMUNICATIONS COMMISSION

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## INTRODUCTION

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CostQuest was engaged by Hughes Network Systems, LLC, an EchoStar Company (Hughes) to analyze Connect America Funding II (CAFII) and Remote Area Funding (RAF) funding. Hughes asked CostQuest to explore a number of hypothetical scenarios related to CAFII funding in the forthcoming auction. The questions focus on fund exhaustion and what scenarios exhaust funds by customer location counts. The following analysis serves to answer these questions.

## METHODOLOGY OVERVIEW

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### DATA

CostQuest relied primarily on data made available by the FCC for use under protective order. The *Confidential Information* subject to the Third Supplemental Protective Order in Federal Communications Commission WC Docket No. 10-90, including the Connect America Cost Model (CACM) License Agreement. Disclosure, copying, reproduction, merger, translation, modification, enhancement or use for any purpose other than direct participation in WC Docket No. 10-90 is prohibited. The data used included:

- 
3. Funded Census Block list
  4. Extremely High Cost Census Block List (EHCT)
  5. FCC Summary report on 4-3 funding

### PROCESSING

CostQuest processed the FCC's data to estimate funding requirements and potential reserve levels by Census Block to help isolate available funding. CostQuest coalesced the data in the following way:

- A. From item 5 in the Data Section, the FCC Summary report on 4-3 funding, CostQuest identified States and Price Cap Carriers that turned down CAFII funds.
  - Total annual funding of \$269,564,187 was identified. This included State/Carrier funds that were turned down and Incorporated \$100M for the Remote Area Fund (RAF) areas.
- B. CostQuest created a Census Block summary file of estimated funding requirements (i.e., potential reserve) for both the RAF and CAFII areas
  - Started with Item 3 in the Data section and selected the State/Carrier Census Blocks that were turned down.
  - EHCT Census Blocks for Price Cap Carriers were selected, from Item 4 in the Data Section, and added
  - Using the output from Item 1 in the Data Section, the estimated costs per Census Block was added to each record
  - The file was summarized by Carrier/State for funded Census Blocks and the estimated funding was developed and compared to the amount turned down along with the RAF funds.
- C. A true-up ratio for the CAFII funds was developed and then applied to each funded Census Block record so that the total of the Census Blocks summed to the total funds turned down.
- D. An output file was then developed in MS Excel.

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**NOTES AND ASSUMPTIONS**

The count of funded RAF locations is an open issue. The FCC reported a count of 624,702 in Item 5 above and reported a count of 296,075 in Item 4 above. We understand that Item 5 excludes location counts in Census Blocks in which part of the Census Block is funded by regular CAFII. CostQuest is unsure how these Census Blocks with potential RAF locations and CAFII locations will be treated.

An additional issue with both sources is that some of the Census Blocks are served by cable and/or wireless providers. Under regular CAFII, these Census Blocks are excluded. One could assume that they will be excluded in the auctions. With the exclusion item 5 count drops to [REDACTED] and item 4 count drops to [REDACTED]

Given these issues, we conducted the test under three scenarios

- o Item 5 count is correct (624,702 RAF locations)
- o Item 4 count is correct (296,075 RAF locations)
- o Item 4, excluding covered Census Blocks is correct. ([REDACTED] RAF locations)

**FUNDING SCENARIOS**

Hughes asked CostQuest to answer a number of questions regarding funding scenarios for the remaining available funds for CAFII and RAF. The scenarios CostQuest was asked to analyze are as follows:

Scenario #	Scenario Description
0	What subsidy level is needed to get to 100% coverage.
1	What percentage of customers get served if all bids are at the reserve price (model output)?
2	What percentage of customers get served if the non-RAF areas go at reserve but the RAF areas go at \$1,500/customer/year?
3	What percentage of customers get served if RAF areas go at \$1,500/customer/year and the lowest 40% of the locations, by cost, are bid at 200% of reserve.
4	What percentage of customers get served if RAF Reserve is set at \$1,500/customer/year and a random set of bids come at 200% of reserve.
5	What percentage of customers get served if all CAFII bids are at the reserve price (CACM model output) and the RAF areas are bid at \$482.87 (the remainder available to provide service to all RAF Census Blocks)?

In support of the above scenarios and the assumptions described in the above Notes and Assumptions section, CostQuest developed analysis that is summarized in the Results section.

**NOTE ON USE OF THIS REPORT**

As noted above, this analysis relies on data made available by the FCC for use under protective order. This data and its use is subject to the Third Supplemental Protective Order in Federal Communications Commission WC Docket No. 10-90. Disclosure, copying, reproduction, merger, translation, modification, enhancement or use for any purpose other than direct participation in WC Docket No. 10-90 is prohibited. As such, this report is restricted to use within WC Docket No. 10-90.



**RESULTS**

The following section provides a summary of the CAF and RAF Funding requirements given the six scenarios, and three assumptions, described above.

**CAF Funding Scenarios - Summary**

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Scenario #	Scenario Description	Results if RAF Locations = Count of 624,702 (see Notes and Assumptions, above)	Results if RAF Locations = Count of 296,075 (see Notes and Assumptions, above)	Results if RAF Locations = Count of [REDACTED] (see Notes and Assumptions, above)
<b>0</b>	What subsidy level is needed to get to 100% coverage.	\$ 254.62	\$ 369.24	\$ [REDACTED]
<b>1</b>	What percentage of customers get served if all bids are at the reserve price (model output)?	[REDACTED]	[REDACTED]	[REDACTED]
<b>2</b>	What percentage of customers get served if the non-RAF areas go at reserve but the RAF areas go at \$1,500/customer/year?	47.39%	68.73%	[REDACTED]
<b>3</b>	What percentage of customers get served if RAF areas go at \$1,500/customer/year and the lowest 40% of the locations, by cost, are bid at 200% of reserve.	[REDACTED]	[REDACTED]	[REDACTED]
<b>4</b>	What percentage of customers get served if RAF Reserve is set at \$1,500/customer/year and a random set of bids come at 200% of reserve.	[REDACTED]	[REDACTED]	[REDACTED]
<b>5</b>	What percentage of customers get served if all CAFII bids are at the reserve price (CACM model output) and the RAF areas are bid at \$ [REDACTED] (the remainder available to provide service to all RAF Census Blocks)?	[REDACTED]	[REDACTED]	[REDACTED]