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July 9, 2012

BY HAND DELIVERY AND ECFS

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

Re: American Cable Association Comments on Public Notice DA 12-911 Model Design and Data Inputs For Phase II of the Connect America Fund; WC Docket Nos. 10-90 and 05-337

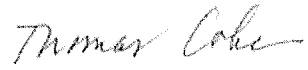
Dear Ms. Dortch:

The American Cable Association, through its undersigned attorneys, submits an original and four (4) copies of the highly confidential version of its comments on Public Notice DA 12-911: Model Design and Data Inputs for Phase II of the Connect America Fund in WC Docket Nos. 10-90 and 05-337, and an original and four (4) copies of the redacted version of its comments, pursuant to the Second Protective Order DA 12-192 in WC Docket Nos. 10-90 and 05-337. Pursuant to the Second Protective Order, ACA has also enclosed two copies of the Highly Confidential Filing to be delivered to Katie King, Telecommunications Access Policy Division, Wireline Competition Bureau. Please data-stamp and return the extra copy of these comments provided for this purpose.

ACA is filing a copy of the redacted version of its comments via ECFS in WC Docket Nos. 10-90 and 05-337.

Please feel free to contact the undersigned with any questions.

Respectfully submitted,



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cc: Katie King, Telecommunications Access Policy Division, WCB

REDACTED – FOR PUBLIC INSPECTION

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
High-Cost Universal Service Support	)	WC Docket No. 05-337
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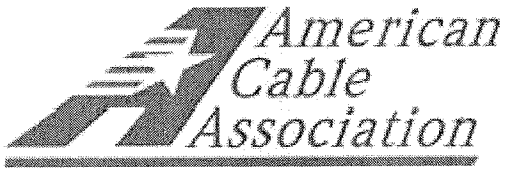
COMMENTS ON PUBLIC NOTICE DA 12-911: MODEL DESIGN AND DATA INPUTS FOR PHASE II OF THE CONNECT AMERICA FUND



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July 9, 2012

SUMMARY

In its *Public Notice*, the Bureau initiates the process of developing an accurate cost model for distribution of Phase II CAF support by focusing on issues of model design and data inputs. The Bureau seeks to use the cost model to ensure the most efficient distribution of funds to the most locations in areas served by price cap local exchange carriers ("LECs") that do not benefit from the advantages of broadband service from an unsubsidized provider. If the Bureau and Commission establish the proper cost model, support per location will be sufficient to meet the performance objectives set forth in the CAF and will enable broadband to be brought to millions of unserved locations. On the other hand, if the cost model provides excessive support per location – more than actually used by price cap LECs to build to meet the adopted performance objectives – the Commission will: limit the number of locations where broadband will be made available by CAF funding; inhibit unsubsidized private sector deployment; and distribute support that will not be spent on broadband deployment.

As foundational elements in the cost model, it is essential to determine the proper network design, terminal value and support methodology used. In making these determinations, ACA suggests the Bureau use as a basis the following principles:

- *Maximize Service to Unserved Locations* – The cost model should maximize the number of homes where broadband will be made available by CAF funding.
- *Provide Funding Only Where Needed* – The cost model should target support only to areas that are not commercially viable without a subsidy
- *Ensure Costs Reflect Realistic Builds by Efficient Providers Meeting the Commission's Performance Obligations* – The cost model should be based on a realistic, reasonable picture of the costs to meet the Commission's performance requirements (4/1 Mbps broadband to 100 percent of the locations in five years).

- *Subsidies Should Reflect Revenues Gained from New Deployments* – The level of subsidy required for any given location should be based on a realistic portrait of all future attainable revenues from broadband deployments.

- *Collect Sufficient Market Data to Support Accurate Modeling* – The cost model should be based on actual market data to the maximum extent possible.

- *Ensure Transparency* – The design of the model should follow the best principles of transparency and flexibility, allowing for the modification of all assumptions.

In these comments, ACA submits that these principles are best achieved by:

- Dimensioning costs correctly through use of a brownfield DSL network architecture with terminal value set at economic value. Funding will not be efficiently allocated if there is a mismatch between the network technology and design used in the cost model and the price cap LECs' realistic deployments to meet the public interest obligations. Instead, the cost model should model the lowest-cost approach available to potential recipients for delivering wireline service to ensure that recipients receive only the amount necessary to deliver service that satisfies the adopted public interest obligations and no more. For this reason, providing funding for a greenfield build would contradict the Commission's previously stated intention to leverage existing network investments to allow for the lowest-cost broadband build-out.

- Dimensioning support levels correctly by basing the cost floor on incremental average revenue per unit ("ARPU"). The target low-end benchmark should not just be the difference between price cap LECs' current sub-broadband ARPUs and broadband ARPUs. Rather, it should be higher to reflect the additional benefits of a broadband build. By using incremental ARPU, the target benchmark will provide a reasonably accurate picture of the ARPU above which carriers are unlikely to offer unsubsidized broadband.

ACA also submits:

- The cost model should estimate the total costs of serving the entire service area, rather than just the standalone costs for eligible areas.

- While ACA favors basing costs to support an eligible location on the incremental cost of serving that location above the rest of the economically viable network build-out, it recognizes that it may be too complex to make such a determination. Should the Commission need to use the pro rata or formula method, ACA believes the costs should be allocated based on the bandwidth throughput each end-user on average is assumed to buy.

- In calculating support for locations already served by price cap LECs, ACA proposes the Commission model only the operational expenses for the provisioning of broadband service with the provision that support be capped at the previous high-cost support amount for that location.

- Data from the SBI/Warren blended footprint provides the most accurate portrait available of current broadband coverage, and the Commission should ensure this data is updated by giving providers the opportunity to submit their most recent data.

REDACTED – FOR PUBLIC INSPECTION

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APPENDIX – DECLARATION OF JIM MITCHELL

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Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
High-Cost Universal Service Support	)	WC Docket No. 05-337
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COMMENTS OF
THE AMERICAN CABLE ASSOCIATION
ON PUBLIC NOTICE DA 12-911

The American Cable Association ("ACA") respectfully submits its comments in the above-captioned proceedings in response to the Federal Communications Commission ("Commission") Wireline Competition Bureau's ("Bureau's") *Public Notice* on Model Design and Data Inputs for Phase II of the Connect America Fund ("CAF").[1]

I. INTRODUCTION

ACA represents approximately 850 mid-sized and smaller facilities-based providers of voice, broadband, and video service, most of whom operate in rural areas. As such, ACA members have a great understanding of the business case for deploying triple-play networks in less dense areas. A significant number of these members have an intense interest in ensuring that support from the CAF is distributed efficiently and targeted to areas where there is no private sector case for deployment, such as those areas servable by ACA members. As result of these interests, ACA has participated

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1 *See Connect America Fund et. al.*, Public Notice, DA 12-911, (rel. June 8, 2012); *Connect America Fund,* WC Docket No. 10-90 et. al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011) ("*CAF Order*").

extensively in the Commission's proceedings leading to the adoption of the National Broadband Plan and *CAF Order*, and those same interests drive these comments in response to the *Public Notice*[2].

For ACA members, there is a great deal at stake in the development of the cost model that will determine the distribution of Phase II CAF support in areas served by price cap LECs. If the Commission gets it right, support per location will be sufficient to meet the performance objectives set forth in the CAF and will enable broadband to be brought to millions of unserved locations. On the other hand, if the cost model provides excessive support per location – more than actually used by price cap LECs to build to meet the adopted performance objectives – the Commission will:

- Limit the number of locations where broadband will be made available by CAF funding. As discussed herein, by adopting a brownfield digital subscriber line ("DSL") model, which will meet the Commission's performance requirements, wireline broadband service can be brought to many millions more locations than through a greenfield build.

- Inhibit unsubsidized private sector deployment. A cornerstone of the Commission's *CAF Order* is not to provide support where there is an unsubsidized entity offering broadband service today and where there is a future private sector case for deployment. However, if there is mismatch between the basis for the cost model, *e.g.* a

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2 ACA's comments are focused solely on the cost model as it applies to determining support for price cap LECs and should not in any way be taken as ACA's position in respect to the provision of support for rate-of-return LECs. ACA has long supported continuing previous high-cost funding levels for rate-of-return LECs during a deliberate transition period.

greenfield build, and the actual network deployment by price cap LECs to meet the performance obligations, *i.e.* only 4/1 Mbps, support will not be provided efficiently and could instead be used to support service where service is already available from an unsubsidized provider or a private sector case exists for deployment. From the viewpoint of ACA's own members, this could affect their decisions to deploy service to over 1 million locations.

- Distribute support that will not be spent on broadband deployment. Not only will the provision of excessive support inhibit private sector deployment, it could be used in ways other than to bring broadband service to unserved locations, *e.g.* investments in non-communications projects or dividends to stockholders. This would be especially troublesome because the Commission's broadband objective is so important and funds are so scarce.

ACA recognizes that the Commission, price cap LECs, and other parties also have a great deal at stake in the development of an accurate cost model to determine how to distribute $1.8 billion of government support annually for five years to bring broadband to millions of unserved homes. ACA is thus heartened by the deliberate and transparent process established by the Commission and the Bureau to develop the cost model.[3] To assist it in responding to the many key issues in the *Public Notice*, ACA has retained a

[3] *Public Notice*, ¶ 5. The Commission expects the cost model to be completed by the end of this year. However, in recognition of the fact that its development may take longer, the Commission, in the *CAF Order* (¶ 148), discusses continuation of Phase I distributions for price cap LECs. ACA believes the Commission should proceed deliberately to make the cost model as accurate as possible.

business consulting firm with expertise in telecommunications network cost modeling[4] and has held extensive discussions with network and operations personnel from its member companies. ACA, along with its consultants, has spent considerable time assessing the CQBAT model submitted by the price cap LECs (ABC Coalition) and in discussions with CostQuest Associates, the firm responsible for developing that model. The following comments are based on these efforts.

II. CORE PRINCIPLES UNDERLYING DEVELOPMENT OF COST MODEL DESIGN AND DATA INPUTS

In addressing the issues raised in the *Public Notice*, ACA believes it is essential for the Commission to set forth and follow objective core principles in assessing the cost model. The Commission, in fact, has already done much of the work to develop these principles either in the *CAF Order* or in related proceedings. ACA summarizes and supplements the Commission's principles as follows:

- *Maximize Service to Unserved Locations* – The cost model should maximize the number of homes where broadband will be made available by CAF funding.

  The Commission, in requesting cost models, reiterated that the Bureau should "ensure that the model design maximizes the number of locations that will receive robust, scalable broadband within the budgeted amounts."[5]

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4 CSMG is a boutique strategy consulting firm with more than 20 years' experience serving the communications, technology and digital media industries. CSMG is headquartered in Boston, Mass., with a satellite office in London. CSMG is a subsidiary of TMNG Global, a publicly traded management consulting and professional services firm specializing in communications, technology and digital media.

5 *Request for Connect America Fund Cost Models*, WC Docket Nos. 10-90, 05-337, Public Notice, DA 11-2026, ¶ 7 (Dec. 15, 2011) ("*Cost Model Request*"). *See also CAF Order*, ¶¶ 51-52 ("All Americans in all parts of the nation…should have access to affordable modern communications networks capable of supporting applications that empower them to learn, work, create, and innovate. As an outcome measure for this goal, we will use the number of residential, business, and community anchor institution locations that newly gain access to broadband service.").

- *Provide Funding Only Where Needed* – The cost model should target support only to areas that are not commercially viable without a subsidy.

The advent and growth of local competitive alternatives has been a great benefit for the CAF. It permits the Commission to focus investment in areas that are not commercially viable and maximize the limited support available. A cost model should avoid providing support in areas where unsubsidized private sector networks can be deployed.[6]

- *Ensure Costs Reflect Realistic Builds by Efficient Providers Meeting the Commission's Performance Obligations* – The cost model should be based on a realistic, reasonable picture of the costs to meet the Commission's performance requirements (4/1 Mbps broadband to 100 percent of the locations in five years).

The model should be cost-based and forward looking (as opposed to a benchmark or simple formula).[7] It should fund the network technology that price cap LECs are most likely to build to meet the performance and other public interest requirements in the *CAF Order*. In other words, the cost picture should reflect how these LECs actually build networks in the real world and how they develop business cases for planning build-outs to particular areas or locations.[8] As the Commission states in the CAF Order, the model should "produce support levels that are sufficient and not excessive…and should drive support" to an efficient level.[9]

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6 As noted in OBI Technical Paper No. 1: The Broadband Availability Gap" (at 1), "profitable business cases… induce incremental network investments." Moreover, the business case for private sector networks is constantly evolving. For instance, as will be discussed later in these comments, because local providers are responding to increasing demand by mobile providers and building many thousands of new fiber links to towers, they are now able to build economically to areas with very low population densities.

7 *See Cost Model Request*, ¶ 8. ("The forward-looking costs of an efficient provider calculated by models must be based on reasonable engineering assumptions.").

8 *See id.*, ¶ 9. ("Models should also reflect how an efficient provider would likely evaluate deployment decisions.") As the Commission has noted, a cost model should not be based on a greenfield approach to build an entirely new network if the LEC is unlikely to deploy such infrastructure and instead will engage in a more limited brownfield build. *See Connect America Fund*, WC Docket No. 10-90, et al., Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, ¶ 436 (Feb. 9, 2011) ("*CAF NPRM*").

9 *See CAF Order*, ¶ 596. ACA notes that the extensive reporting requirements and penalties in the *CAF Order* (*see e.g.* ¶¶ 596, 616) do not address the fundamental concern that support provided pursuant the cost model be distributed efficiently so as to match the public interest obligations. Instead, the purpose of these requirements and penalties is to ensure that whatever public interest obligations are imposed are met. ACA further notes that Section 254(e) (support shall be

- *Subsidies Should Reflect Revenues Gained from New Deployments* -- The level of subsidy required for any given location should be based on a realistic portrait of future attainable revenues from broadband deployments.

By accurately calculating an efficient subsidy, the cost model will provide price cap LECs with the proper incentive to accept CAF funding and give them sufficient compensation to meet their service obligations. The support distributed through the CAF should provide recipients with a return that is not less—but is not more—than what is typical for similar services offered in competitive, unsubsidized areas.

- *Collect Sufficient Market Data to Support Accurate Modeling* – The cost model should be based on actual market data to the maximum extent possible.

The Commission has consistently sought to achieve data-driven results. In developing the cost model, the Commission should be rigorous in ensuring that sufficient data is collected especially for aspects that are critical to determining the amount of funding per location and the geographic allocation of funding.[10]

- *Ensure Transparency* – The design of the model should follow the best principles of transparency and flexibility, allowing for the modification of all assumptions.

In requesting the submission of cost models, the Commission prominently noted that even though "models and input values submitted in this proceeding may be subject to reasonable restrictions to protect commercially sensitive information and proprietary data…[the] model and all underlying data, formulae, computations, and software associated with the model must be available to all interested parties for review and comment…and potential modification."[11]

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used "only for the provision, maintenance, and upgrading of facilities and services for which the support is intended") supports its arguments that the network/technology basis for the cost model's determination of support match the public interest obligations to ensure funding is distributed efficiently.

10 *See e.g., Public Notice*, ¶ 80. ("The Bureau proposes to use wire center boundaries obtained through a new data collection as described above, or in the alternative, commercial datasets, such as TeleAtlas, if the data collection cannot be completed in time for the model development process.")

11 *Cost Model Request*, ¶ 4.

III. SELECTION OF WIRELINE NETWORK TECHNOLOGY AND DESIGN

A. Basis for Selecting the Wireline Network Technology and Design

The *Public Notice's* initial inquiry involves "the choices of network technology (e.g., fiber-to-the-premises or DSL) and design (green-field or brown-field deployment) – along with terminal value of the network (book value, economic value, or zero value)" and notes that these "are likely to be major drivers of cost."[12] ACA agrees with this conclusion; the choices of network technology and design and terminal value are critical factors in determining cost. ACA also agrees that the model should "align the modeled costs as closely as possible with the forward-looking costs" of the price cap LECs.[13]

These choices are particularly important because, as the Bureau notes, "model design choices will not obligate providers to deploy the modeled technology" and the *CAF Order's* focus is "on the services delivered, not the technology used."[14] ACA does not oppose technological neutrality in network deployment, which gives funded providers the incentive to meet the public interest obligations at the lowest possible cost. However, to maximize the number of homes efficiently receiving broadband in areas where there is no private sector business case, support should match both the rationale upon which the Commission's decisions were based and the deployment price cap LECs are realistically expected to undertake to meet the public interest obligations in the *CAF Order*.

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12 *Public Notice*, ¶ 12.

13 *Id.*, ¶ 14.

14 *Id.*, ¶ 13.

The Commission's decision to initially forgo competitive bidding for support in areas served by price cap LECs and employ a right of first refusal was based on its acceptance of arguments from these LECs that,

> the Plan will accelerate the deployment of broadband and avoid inefficient duplication of facilities constructed with the help of legacy high-cost universal service programs…Where explicit and implicit support has enabled significant investments in broadband deployment in high-cost areas, efficiency demands that the Commission leverage those investments rather than abandoning them and funding duplicative facilities.[15]

In adopting a statewide right of first refusal and rejecting immediate use of competitive bidding, the Commission accepted these arguments, stating that "the CAF is not created on a blank slate, but against the backdrop of a decades-old regulatory system."[16]

In addition, the price cap LECs specifically argued for relatively low-speed performance obligations – 4 Mbps/768 kbps – and that "the model should reflect only the costs of deploying the specific broadband service that the ABC Plan would support".

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15 Joint Comments of AT&T, CenturyLink, Fairpoint, Frontier, Verizon, and Windstream, *Connect America Fund*, WC Docket No. 10-90 et. al. at 12-13 (Aug. 24, 2011) ("*Price Cap Joint Comments*"). *See also e.g.*, Joint Reply Comments of AT&T, CenturyLink, Fairpoint, Frontier, Verizon, and Windstream, *Connect America Fund*, WC Docket No. 10-90 et. al. at 11-16 (Sept. 6, 2011). ("The Plan's right of first refusal is not designed to "tilt the competitive landscape in favor of the Price Cap incumbents," as some contend. Instead, it is a narrowly-targeted means of accelerating broadband deployment and preventing inefficient duplication of existing facilities. In short, it identifies those wire centers where a provider has made significant progress in deploying joint-use voice and broadband facilities and gives that provider an opportunity to extend those facilities to unserved households and businesses in those wire centers. Importantly, the right of first refusal appropriately recognizes that ILECs, due to their historically distinct regulatory treatment, are dissimilarly situated from cable operators, wireless carriers, and other competitive providers. In many cases, ILECs have deployed their joint-use facilities to unusually high-cost areas not because it made independent business sense to do so, but because federal and state regulation compelled them to do so.").

16 *CAF Order*, ¶ 165.

The Commission should not make mid-course corrections to increase these obligations.[17] Here too, the Commission largely accepted the position and arguments of the price cap LECs, rejecting submissions from numerous parties for much higher speed requirements.[18] The Commission's decision was based explicitly on providing these unserved areas with service reasonably comparable to that provided in urban areas.[19] Regardless of the technology used for deployments, these performance obligations should drive the modeled costs.

Finally, the Commission should recognize that the incentive of a price cap LEC (or for that matter any efficiently run private sector entity) is to serve its own business interests, including to maximize returns on investments. In other words, a rationale price cap LEC will choose to spend capital where the return is the greatest, which based on their record is clearly not on broadband deployments in less dense areas. The Commission in the *CAF Order* seeks to counter this normal behavior by providing a

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17 *Price Cap Joint Comments* at 11.

18 *CAF Order*, ¶ 94. *See e.g.* Reply Comments of ACA, WC Docket No. 10-90 et. al., at 17 (May 23, 2011); Joint Reply of the National Exchange Carrier Association et al., WC Docket No. 10-90 et. Al., at 29-31 (Aug. 11, 2010); Reply Comments of the Fiber-to-the-Home Council, WC Docket No. 10-90 et. al., at 4-12 (May 23, 2011).

19 ACA also notes that the price cap LECs claimed that if higher speeds were mandated, it would need to expend substantial additional funds to drive fiber deeper into its networks, and CAF funding then would be insufficient to support extending service to nearly as many locations. *See e.g.* Reply Comments of AT&T, WC Docket No. 10-90 et al., at 61-64 (May 23, 2011) ("As AT&T has explained, there is a fundamental trade-off between the speed of broadband services and the number of people to whom those services can be deployed through the CAF…Unless the Commission intends to grow the CAF to gargantuan size, it must acknowledge that the fund simply cannot support the deployment of lightning-fast broadband service to all Americans. Instead, as several commenters have noted, the Commission can best balance its broadband deployment and adoption goals by reducing the upstream threshold of supported services to 768 kbps (and, potentially, the downstream threshold to 3 Mbps).").

subsidy so that all Americans will have access to broadband. However, in these supported areas, a price cap LEC, knowing there is not a sufficient "unsubsidized" business case in these locations, will have no financial incentive to invest more than is required. That is, it will build the lowest-cost solution to meet government mandated requirements.

Even if the CAF model provides funding sufficient for fiber-to-the-home ("FTTH") deployment, price cap LECs are unlikely to build out fiber-to-the-home because they can meet the Commission's mandate (4/1 Mbps service) with a much less expensive network build, namely brownfield DSL. Unless the performance obligations were increased significantly (*e.g.*, to 100/20 Mbps), it is not realistic to expect that price cap LECs would use CAF funding to build fiber-to-the-home networks. Further, the Commission should expect that if it utilizes a greenfield cost model with current public interest obligations, the price cap LECs would act rationally and take the extra support and either invest it where the return is greater or increase dividends.

Thus, funding will not be efficiently allocated if there is a mismatch between the network technology and design used in the cost model and the price cap LECs' realistic deployments to meet the public interest obligations. Instead, the cost model should model the lowest-cost approach available to potential recipients for delivering wireline service to ensure that recipients receive only the amount necessary "to deliver service that satisfies" the adopted public interest obligations[20] and no more. For this reason, providing funding for a greenfield build would contradict the Commission's previously

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[20] *See CAF Order*, ¶ 91.

stated intention to leverage existing network investments to allow for the lowest-cost broadband build-out.

B. Base the Cost Model on a Brownfield DSL Build with Economic Value of Network

Based on the forgoing discussion, the Commission should employ a brownfield DSL network as the basis for the cost model since it most accurately reflects the infrastructure price cap LECs would deploy when given the freedom to employ any technology to meet the public interest obligations. By using this network technology and design, the Commission will ensure not only the efficient use of funding but will maximize the benefits of support by bringing broadband service to many more locations. While ACA recognizes that there is some uncertainty in the costs for brownfield DSL in the ABC Coalition's CQBAT model[21], the model as designed produces outputs that demonstrate greater deployment of broadband networks meeting the public interest obligations using a brownfield DSL scenario than a greenfield approach. Specifically, assuming a $1.8 billion fund, 3.9 million locations would be built-out and maintained in a greenfield DSL scenario compared to 6.1 million to 14.1 million in a brownfield DSL scenario – that is, 50 percent to 250 percent more locations would be built and maintained.[22]

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21 In the *CAF NPRM*, the Commission notes that there are concerns "by commenters about the size and quality of copper gauge in existing network deployments." (¶436) However, there is no discussion of how extensive these might be. In addition, these concerns could be resolved without a greenfield build by bringing fiber to a node closer to locations. In any event, the cost model should be data-driven, and price cap LECs should be obligated to produce data about their networks that will allow for a realistic portrait of the necessary costs to meet the public interest obligations.

22 The number of locations served by a brownfield DSL scenario varies depending on whether or not the cost ceiling ("alternate technology cutoff") of

The ABC Coalition's proposal is based on a greenfield DSL build rather than a brownfield DSL build. However, the CQBAT model includes functionality to allow for the modeling of a brownfield DSL build-out. In particular, the model's capital expenditure line items can be set for a greenfield DSL build, a brownfield DSL build or for both.[23] For example, the brownfield option allows a user to assign a cost for the conditioning of lines to ensure they are suitable for DSL and provides funding for

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$256/location/month is maintained. If the cost ceiling is removed, $1.8 billion can provide coverage to 6.1 million locations, including all extremely high-cost locations that the FCC proposes to serve with a high-cost fund separate from the CAF. If the cost ceiling of $256/location/month is maintained, $1.8 billion can provide coverage to 14.1 million locations. Either scenario allows for broadband service to be expanded to many more locations than are served in a greenfield DSL build. In both scenarios, the floor must be lowered to use all of the $1.8 billion in allocated funding.

23 CostQuest Associates affirmed to ACA's consultants that setting a pre-processing toggle to "Greenfield-No" triggers a logical series of inclusions and exclusions of line items with the capital expenditure inputs. For example, the copper feeder plant and copper drop to the customer is excluded from the calculations but a conditioning cost per line is added.

(Email attachment from Mark Guttman at CostQuest Associates (mguttman@costquest.com) to Micah Sachs at CSMG (micah.sachs@csmg-global.com), May 24, 2012: "*CSMG*: Can you clarify for me what "Greenfield – Yes" and "Greenfield – No" refer to in the Step 2: Solution Sets>Toggles section? Can you speak to what a greenfield build vs. a brownfield build means for each node of the network in the TelcoCopperFTTn12K network design? Specifically, if it is a Greenfield build, does the model output assume that the customer drop needs to be overbuilt/re-built?

Guttman: The Greenfield value of Yes assumes that there is no existing plant in the network and that all components of the network need to be built. The Greenfield value of No assumes that we are looking at a brownfield build in which portions of the plant can be reused to provision the service we are studying. Typically in a Greenfield = No build for a TelcoCopperFTTn12k, the copper distribution and drop would be assumed to be reutilized (i.e., no new capex required).

The logic of the model is that the Greenfield toggle is used to select the Capex inputs. If you look at column M ("GorB") of the ModelInput tab in the Capex inputs (I believed what you referred to as the Home tab in Question 1), if GreenField = Yes is set, we exclude any items that have a value of B (B = Brownfield, G=Greenfield, A=All). If Greenfield =N, we exclude any items which have a value of G."))

extending fiber to the DSLAM. Even if the cost of conditioning requires further review, the model is functionally capable of generating a realistic picture of the cost of a brownfield DSL build.[24]

The CQBAT model determines that building greenfield DSL to all unserved locations in price-cap territories,[25] and all incumbent price-cap LEC-served broadband locations where there is not a competitor, would require an average capital expenditure of $3,858 per passed home. In contrast, a brownfield DSL build would require an average capital expenditure of only $949 for each of these locations.[26] This substantial difference holds even though the brownfield build includes an assumed one-time $100 cost per location associated with the conditioning of every home passed, including 10.3 million locations that are already served by broadband, which by definition would not require conditioning. The CQBAT model therefore spreads the cost for conditioning a minority of lines across all lines. The conditioning cost per location would have to increase nearly 3000 percent for the capital expenditures averages between greenfield DSL and brownfield DSL to converge.[27]

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24 Because the CQBAT model assumes every uncompetitive price cap LEC location in the country will require conditioning, including those already served by broadband and therefore do not require conditioning, the cost for conditioning a minority of lines is spread across all lines.

25 Under the model – and either the greenfield or brownfield DSL build -- support is provided to 18,065,001 locations, with an assumed 90 percent (16.3 million) eventually subscribing to broadband service.

26 On a per subscriber basis, a greenfield DSL build would cost $4,286 per location and a brownfield DSL would cost $1,055 per location.

27 ACA notes that the Commission has determined that the lowest cost upgrade path to FTTH involves an initial investment in 12,000-foot brownfield DSL. *See* OBI Technical Paper No. 1: The Broadband Availability Gap, Federal Communications Commission, (April 2010) Exhibit 3-I at 41.

The greater efficiency of a brownfield DSL deployment should be expected. Last year, the Commission noted that a "brown-field approach ensures that the value of (sunk) private investment is captured in the cost calculation and thereby limits the support required."[28] While the Bureau continues by raising the concern about quality of last-mile copper,[29] as stated above, the price cap LECs' cost model uses a conservative approach to account for this concern. Thus, a brownfield DSL build achieves maximum benefit in terms of locations served based on efficient use of funding, meeting two core principles.

The Bureau next inquires about "how the model should calculate the terminal value of the network at the end of the modeling period."[30] For a brownfield DSL build, the Bureau "proposes that the model would assume that, at the end of the modeling period, assets would have a zero value."[31] ACA submits that the Bureau's approach significantly understates the terminal value of the DSL build and recommends that the Bureau assess network elements individually. This is how the CQBAT model handles them. In fact, in the CQBAT model, useful lives of most assets extend well beyond five years. For example: conduit has a 50 year useful life; buried and aerial fiber have a 25 year useful life; and even buried and aerial copper have a 25 year useful life.

Because the architecture of a 12,000-foot DSL network will likely be obsolete for meeting a revised definition of broadband in five years, assets that are uniquely tied to this network architecture should have no useful economic life after five years, and these should be considered to have zero terminal value. However, other elements of the

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28 *CAF NPRM*, ¶ 437.

29 *Id.*

30 *Public Notice*, ¶ 22.

31 *Id.*, ¶ 37.

network, especially in a brownfield deployment, such as fiber to the nodes (DSLAMs) and optronics at the central office and node, should have a normal asset life, as they will be re-used for future FTTx build-outs.[32]

ACA disagrees with the Bureau that "estimating actual commercial value is difficult and uncertain."[33] The CQBAT model, as it is currently constructed, allows for the modification of both economic useful lives and salvage rates for 20 different asset classes. For example, a determination could be made that all copper should only have a 5-year useful life while all fiber should have a 50-year useful life. The model also permits the salvage rate for elements with positive salvage rates to be set to zero, or negative, depending on their salvage value. These modifications can be made to the inputs of the existing model. This allows for developing a reasonably realistic picture of the actual commercial value of the network. As discussed later in these comments, ACA suggests that the Commission seek comment on the values for these inputs.

IV. ALLOCATING SHARED NETWORK COSTS

A. Modeling Eligible and Ineligible Areas

The Bureau inquires "how to estimate network costs consistent with the requirement…that support will only be provided in areas outside the footprint of an

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32 ACA notes that while DSLAMs cannot be employed in FTTH architecture, they can be re-deployed inside buildings for fiber-to-the-building architecture, with subscribers connecting via DSL over existing telephone cabling.

33 *Public Notice*, ¶¶ 37. ("A DSL network with only limited upgrades could have small commercial value, especially if another service provider receives support under a program subsequent to CAF Phase II, but estimating actual commercial value is difficult and uncertain. For that reason, using a terminal value of zero could reasonably approximate the value of the network without the added complexity of estimating commercial value.").

unsubsidized competitor."[34] Both the price cap LECs and the Bureau propose that the model estimate the total costs of serving the entire service area and allocate shared costs to supported (eligible) areas.[35] The other, standalone method would be "to model only the network needed to connect locations in eligible areas."[36]

ACA agrees with the price cap LECs and the Bureau's proposal that the model estimate the total costs of serving the entire service area, rather than just the standalone costs for eligible areas. The reason for this is that price cap LECs will capture economic value from the portions of the network that pass through areas where it is economically viable to deploy and where competitors provide service. Thus, the "total cost" approach meets the core principles of ensuring costs are realistic and funding should be targeted only where needed.

B. Methodology for Assigning Shared Costs

The next issue is to determine "how to allocate [shared] costs consistent with the requirement…that the model be capable of determining" supported areas on a granular basis.[37] The allocation of network costs that are shared among services or different types of customers is a difficult issue to resolve, and the *Public Notice* asks for comment on two approaches to address this issue. Under the "Subtractive Method,"[38] "the model would estimate the cost of a network serving both supported and unsupported areas and then subtract the cost of a network serving only the unsupported areas to determine the

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34 *Public Notice*, ¶ 42.

35 *Id.*

36 *Id.*, ¶ 45.

37 *Id.*, ¶ 49.

38 *Id.*, ¶¶ 50-55.

costs associated with the supported areas."[39] This is the Bureau preferred approach, "provided that a computationally tractable method can be found."[40] The alternative approach – the "Pro Rata or Formula Method"[41] – would entail allocating costs on a pro rata basis based on bandwidth or some other factor. This approach is favored by the ABC Coalition model.

ACA agrees with the Bureau that the costs to support eligible locations should be based on the incremental cost of serving that location above the rest of the economically viable network build-out, rather than on a pro rata basis. As the Bureau suggests, the pro rata approach will in many instances "not estimate the economic costs of serving any area with a high degree of accuracy."[42] In contrast, the subtractive method would meet the important core principle of generating more realistic costs.

At the same time, ACA understands the Bureau's concern about determining "a computationally tractable method" to appropriately calculate true incremental costs.[43] The complexity of this task cannot be underestimated. ACA believes that the Commission might look to the European Commission's recommendation in 2009 that the standard for establishing economically efficient and just call termination rates should be long-run incremental cost (LRIC) cost modeling.[44] This is now the standard approach

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39 *Id.*, ¶ 50.

40 *Id.*, ¶ 57.

41 *Id.*, ¶ 56

42 *Id.*, ¶ 58.

43 *Id.*, ¶ 57.

44 *See* Commission Recommendation of 7.5.2009 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU, European Commission, ¶ 13. ("Taking account of the particular characteristics of call termination markets, the costs of termination services should be calculated on the basis of forward-looking

used across Europe for developing glidepaths for the gradual reduction of call termination rates. But, ACA recognizes the call termination calculation is less complex than what would be required in the cost model.

Because of the computational issues that arise with the subtraction methodology, the Commission may have no choice but to use the pro rata or formula method despite its limitations. Should the Commission adopt this method, ACA believes the costs should be allocated based on the bandwidth throughput each end-user on average is assumed to buy.

V. CALCULATION OF SUPPORT FOR LOCATIONS ALREADY SERVED

In high-cost areas, price cap LECs may already have deployed broadband to certain locations either because of previous government support or because they produced a sufficient return on investment. The *Public Notice* inquires whether the model should calculate support levels for locations in high-cost areas that already are served by a price cap LEC.[45] The Bureau seems to conclude that it would be more consistent to include existing areas if a greenfield approach is used and exclude them if a brownfield approach is used because "the incremental cost to deploy broadband to areas that already have service will likely be too small to generate support under the model."[46]

ACA proposes another approach consistent with a brownfield deployment that would provide sufficient support to locations already served with broadband by a price

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long-run incremental costs ("LRIC"). In a LRIC model, all costs become variable, and since it is assumed that all assets are replaced in the long run, setting charges based on LRIC allows efficient recovery of costs. LRIC models include only those costs which are caused by the provision of a defined increment.").

45 *See Public Notice*, ¶ 60.

46 *Id.*, ¶ 61.

cap LEC: model all costs for areas unserved by broadband, but for served locations model only the operational expenses with the provison that support be capped at the previous high-cost support amount for that location. As explained below, this approach best achieves the core principles of ensuring efficient funding using realistic costs and providing funding only where needed.

Under the price cap LEC proposal, more than 2 million of the 4.2 million locations proposed to be served by these providers already receive broadband from them.[47] In a brownfield build, locations that already have broadband service with speeds of 4/1 Mbps should require no additional capital expenditure (depreciation recovery) because they have already met the FCC's threshold for broadband service.[48] While some of these locations may only be viable due to legacy high-cost support, there is no practical way of determining the remaining initial capital investment yet to be recovered.

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47 *See Ex Parte* Filing of AT&T, CenturyLink, Fairpoint Communications, Frontier, Verizon, and Windstream, WC Docket No. 10-90 et. al., Attachment 2: Summary of Model Results, at 3 (July 29, 2011) ("LEC July 29 Ex Parte") ("Scenario #3 is the Coalition's recommended solution. It focuses exclusively on areas currently served by price cap incumbent LECs, and limits the total annual disbursements from CAF to $2.2 billion for these areas…This scenario would support wireline broadband for 4.2 million high-cost service locations. ILEC-provided broadband is currently offered in 2 million of these locations; the remaining 2.2 million locations would be addressed by new build-out funded by CAF support.").

48 In some cases, legacy high-cost broadband lines will require incremental investment to allow for increased backhaul to both legacy served areas and new unserved areas. However, these incremental costs will be captured and associated with unserved locations, due to the subtractive methodology as proposed by the Commission, and supported by the ACA, in the Commission's proposed approach to the methodology for assigning shared costs. If the subtractive method of allocating costs proves too difficult to implement, a simplified version of the subtractive method can be used: all incremental capital expenditures that would be associated with increasing backhaul to existing broadband lines can be allocated to the new broadband lines that are necessitating the increased backhaul.

Due to the longevity of the previous universal service funding program and the longstanding existence of 4/1 Mbps DSL technology, it can safely be assumed that pre-existing USF-supported 4/1 Mbps DSL locations have been funded long enough to fully recover the costs of their initial build-out. It is, however, reasonable to model the operational costs for these legacy high-cost lines, as these costs are ongoing. In a few cases, the operational expense per line may be so high as to allow for the location to continue to receiving high-cost support. However, the monthly recovery available for these locations should be capped and not exceed their current recovery from universal service funding.

VI. ESTABLISHMENT OF BENCHMARKS TO DETERMINE AREAS WHERE SUPPORT SHOULD BE PROVIDED

The Commission intends to provide a specific amount of support to each area with costs above a specified benchmark and below "an extremely high cost threshold."[49] The Bureau now seeks comment on how to establish this low-end benchmark ("target benchmark") and high-end threshold ("alternate technology cutoff") in light of the fixed $1.8 billion support amount.[50] In their submission, the price cap LECs proposed an $80 benchmark and $256 high cost threshold.[51] It is not clear what methodology the ABC Coalition and Commission employed to determine the low-end benchmark.[52]

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49 *Public Notice*, ¶ 64.

50 *Id.*

51 *See* LEC July 29 Ex Parte at Attachment 1 at 5.

52 *See*, US Telecom *Ex Parte*, *Connect America Fund*, WC Docket 10-90 et. al., at 2 (Aug. 16, 2011) ("The ABC plan group believes that $80 sets an appropriate threshold given budgetary constraints, delivers an appropriate allocation of support among census blocks and adequately reflects current network builds.").

ACA submits that the Commission focus first on establishing an objective methodology upon which to determine the low-end benchmark. To that end, ACA proposes that the target low-end benchmark be equivalent to the average revenue offset per subscriber that price cap LECs would reasonably expect in areas where they face no competition. In other words, the target benchmark is the value of the incremental average revenue per unit ("ARPU") that the LECs will realize from extending their DSL networks to non-broadband customers, taking into account the following factors:

- Network build-outs will produce synergies for non-subsidized purposes, like extending fiber to cell towers or large businesses;[53]
- Expanded DSL networks will decrease the current rate of voice line loss, and will likely lead to the recovery of some customers who dropped their voice lines; and

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53 *See* Mediacom *Ex Parte* Presentation, WC Docket No. 10-90 et. al., (June 13, 2012). *See also* Sean Buckley, CenturyLink Won't Buy Sprint, Will Focus on Business, Broadband Opportunities, Fierce Telecom (Aug. 11, 2011), available at http://www.fiercetelecom.com/story/centurylink-wont-buy-sprint-will-focus-business-broadband-opportunities/2011-08-11. ("Taking a holistic approach to rolling out fiber in its network, CenturyLink is leveraging the fiber it's deploying for its Fiber to the Tower initiative for wireless backhaul to shorten its copper loops for FTTN. Although CenturyLink is facing a slew of new wireless backhaul seven-year agreements with two of the largest wireless operators, it plans to build fiber to at least 6,000 towers this year and probably another 6,000 or so in 2012."); Sean Buckley, Welcome 2012's Wholesale Service Provider Leaders, Fierce Telecom (Apr. 16, 2012), available at http://www.fiercetelecom.com/story/welcome-2012s-wholesale-service-provider-leaders/2012-04-16. ("Wireless backhaul continues to be big business for incumbent and competitive service providers alike. On the large incumbent side, Verizon, CenturyLink, Windstream and FairPoint (Nasdaq:FRP) continued to expand their Fiber to the Tower (FTTT) footprints. Verizon expanded its Ethernet-based backhaul reach to 80 nodes supporting 23 areas in the Eastern part of the United States throughout Q4 2011. Likewise, CenturyLink built out fiber to 1,250 cell towers in Q4 2011, ending the year with almost 10,200 Fiber to the Tower (FTTT) builds complete. No less compelling was FairPoint. Having emerged from bankruptcy protection in 2010, FairPoint had connected over 700 out of 1,600 cell towers in its New England territory with fiber in 2011.").

- Increased broadband uptake will lead to increased uptake of other (video and voice) services.

Therefore, the target benchmark should not just be the difference between price cap LECs' current sub-broadband ARPUs and broadband ARPUs. Rather, it should be higher to reflect the additional benefits that come from offering the required broadband service (in this instance the 4/1 Mbps DSL service) as discussed above. By using incremental ARPU, the target benchmark will provide a reasonably accurate picture of the ARPU above which carriers are unlikely to offer unsubsidized broadband. It should be noted that the price cap LECs assume a 90 percent broadband penetration rate in unserved areas, demonstrating their confidence in attaining significant incremental revenues from building out broadband to these locations.

Setting the low-end benchmark correctly ensures that locations are targeted with the appropriate amount of funding. Set the benchmark too low, and all subsidized locations will receive more funding than they need. For example, if the target benchmark should be $50 but is set to $40, locations that cost $70 to serve will receive a $30 subsidy rather than the appropriate $20 subsidy. Set the benchmark too high, and all locations above the low-cost benchmark will not receive sufficient funding to justify the price-cap carriers' acceptance of the funding. For example, if the target benchmark should be $50 but is set to $60, locations that cost $70 will receive a $10 subsidy rather than the appropriate $20 subsidy. Setting the benchmark appropriately will, on the one hand, prevent the distribution of excessive funds and will, on the other hand, provide service providers with the appropriate incentive to accept the proposed subsidy. Using any other methodology for determining the target benchmark distorts the purpose of the cost model

and guarantees that funding will be improperly allocated to every high-cost location in the United States.

By taking this approach, the Commission will base its support on efficient funding using realistic costs and properly target support to where it is needed.[54] Accurately modeling funding will maximize the number of homes served with broadband, fulfilling one of the Commission's primary objectives in developing the CAF.

VII. DATA SOURCES

The Bureau seeks comment on seven data source issues.[55] Four of the issues relate to geographic information systems ("GIS") data, and ACA only comments on the issue of boundaries of existing broadband footprints. ACA comments on all three carrier plant issues. All of ACA's comments seek to further the principles of ensuring efficient funding using realistic costs and modeling is data-driven.

A. GIS Data – Boundaries of Existing Broadband Footprints

As the Bureau discusses, it is important to obtain accurate data on the locations served by unsubsidized competitors and where price cap LECs already provide qualifying broadband service.[56] The Bureau therefore seeks comment on whether to use only State Broadband Initiative ("SBI") data collected for the National Broadband Map or to

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54 ACA believes that with a brownfield build and by establishing the low-end benchmark as proposed herein, the Commission can support the deployment of wireline broadband technology to more unserved locations while remaining within the CAF budget. It thus will have greater leeway in setting the high-end threshold.

55 *See Public Notice*, ¶ 72.

56 *See id.*, ¶ 82.

augment this information with other data sources.[57] Based on its experience, ACA submits that current data from the SBI/Warren blended footprint provides the most accurate portrait available of current broadband coverage, including coverage of cable providers. However, the Commission should ensure the most updated version of this data is used when it implements the cost model. Local providers should have the opportunity to submit their most recent data and have it incorporated into the final version of the model.

B. CARRIER PLANT

1. Plant Mix

The Bureau inquires whether outside plant mix should be based on carrier-provided data[58] or data from prior Commission modeling.[59] From ACA's discussions with its members, it understands that plant mix has a significant impact on the model. For instance, aerial plant can be considerably less expensive to build than buried plant, especially in areas with difficult topography. The attached Declaration of Jim Mitchell, Vice President of Regulatory Policy and Interconnection for Armstrong Utilities Inc. makes this point.[60] For Armstrong, an all-aerial build using coaxial cable is one-half the cost (direct costs of **REDACTED** $XXX **REDACTED** per mile) of an all-buried build using coaxial cable (direct costs of **REDACTED** $XXX **REDACTED** per mile). Thus,

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57 *See id.*, ¶ 83.

58 *See id.*, ¶ 95.

59 *See id.*, ¶ 96.

60 *See* Declaration of Jim Mitchell, Armstrong Group of Companies (attached).

because of the great impact plant mix can have on the model, ACA agrees with the Bureau that that carriers be required to document their plant mix.

2. Age and Location of Existing Plant

As the Bureau notes, the age and location of existing plant is an important driver of cost in a brownfield modeling approach.[61] The Bureau proposes either that it collect such data from the providers[62] or adopt the approach taken with the National Broadband Map and infer the location of fiber from the carrier's existing broadband footprint.[63] As with plant mix data, ACA proposes that carriers be required to document the age of their plant.

3. Gauge of Existing Twisted-Pair Copper Plant

If a brownfield modeling approach is followed, it will be important to gather information on the gauge of copper wire deployed in existing plant, which will determine the length of fiber feeder lines. The Bureau seeks comment on whether it should collect data from providers[64] or use an average cost methodology.[65] ACA proposes that carriers be required to document the geographic location of inferior gauge copper plant. Given carriers' claims that higher-gauge copper can reduce the ability to provide broadband speeds over 12,000-foot loop lengths, and given the substantial additional costs

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61 *See Public Notice*, ¶ 98. ACA notes that the age and location of existing plant is important mainly because it is correlated to the gauge of copper loops and loop conditioning costs. Earlier in these comments ACA discussed this issue and the CQBAT model's treatment of these costs.

62 *See id.*, ¶ 99.

63 *See id.*, ¶ 100.

64 *See id.*, ¶ 103.

65 *See id.*, ¶ 104.

associated with shortening loop lengths (such as the capital that will be expended for additional DSLAMs and distribution terminals and associated with laying more fiber to additional DSLAMs), the Commission should strive to base its funding on the most accurate picture of carriers' plant as it currently exists.

VIII. VALIDATION OF COST INPUTS

The *Public Notice* seeks comment on sources for data related to the cost of equipment and labor used to provide broadband service and inquires how to validate that data.[66] In response and to further the core principle of transparency,[67] ACA requests that the Commission establish a process where first the price cap LECs (CostQuest Associates) release additional information referencing the exact sources of their inputs for the CQBAT model. Because some of these inputs may be proprietary in nature, at the minimum, the price cap LECs should be required to offer a catalog of all inputs

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66 *See id.*, ¶ 106.

67 *See Cost Model Request*, ¶ 4 ("In the *USF/ICC Transformation Order* and *FNPRM*, the Commission reaffirmed criteria that any forward-looking cost model used to determine federal high-cost support must meet, stating that the "model and all underlying data, formulae, computations, and software associated with the model must be available to all interested parties for review and comment. All underlying data should be verifiable, engineering assumptions reasonable, and outputs plausible." Models and input values submitted in this proceeding may be subject to reasonable restrictions to protect commercially sensitive information and proprietary data, but the models and data must be available for public scrutiny and potential modification."). *Wireline Competition Bureau Issues Progress Report on the Connect America Fund (CAF) Phase II Model*, Public Notice, DA 12-869,¶ 7 (June 1, 2012). ("In issuing its Progress Report on the CAF, the Bureau found flaws with the CQBAT model's inputs: However, the Bureau and the public are not able to make changes to assumptions not controlled via model inputs, and the Bureau and the public do not yet have access to data that would verify some of the model inputs.").

describing the methodology and sourcing of the inputs, identifying those inputs where the sources are confidential or proprietary.

More specifically, ACA requests that the price cap LECs modify the model and/or provide appropriate access to change all standard assumptions, including but not limited to –

- The ability to modify the rate for the cost of money.
- The ability to modify the salvage rates for different asset classes.
- The ability to modify the expected useful life for different asset classes.
- The ability to modify state-by-state plant mixes.
- The ability to modify all of the inputs into different network designs, including but not limited to:
    - Maximum distance between a customer location and the DSLAM.
    - Maximum number of customers which can be served from a single remote terminal.
    - The maximum number of customers who can be served from a distribution terminal/building terminal.
    - The maximum distance from the customer premise to the distribution terminal.
    - The maximum number of customers who can be served by a single central office DSLAM.
    - The target design capacity for number of customers who can be served from the central office DSLAM.
    - Maximum distance between a customer location and the DSLAM.
    - The maximum distance a customer can be from a remote terminal.
    - The capacity (in lines) of a single GigE Ethernet link.

Once this has been done, the Commission should give ACA and other parties the opportunity to submit their proposed sources of data.

IX. ADDITIONAL COST INPUTS

In addition to the inputs discussed in the previous sections, there are a series of additional cost inputs that ACA believes will have a significant impact on the cost model. To further transparency and a data-driven outcome, ACA suggests the Commission seek public comment on the following:

- Cost of money assumptions. The CQBAT model uses the same cost of money for setting the WACC (weighted average cost of capital) and the IRR (internal rate of return). ACA's analysis suggests that the assumed cost of money of 9 percent is high given historically low borrowing costs and depressed equity returns.
- Salvage rates for various asset classes.
- Economic useful lives of various asset classes.
- The current cost of equipment, given standard price compression in telecommunications equipment, the vintage of the model assumptions (March-May 2011),[68] and the delay between the development and real-world implementation of the cost model.
- Loop conditioning cost assumptions.
- Hourly labor rate for outside plant labor and engineering.

X. CONCLUSION

In its *Public Notice*, the Bureau initiates the process of developing an accurate cost model for distribution of Phase II CAF support by focusing on issues of model design and data inputs. The Bureau seeks the most efficient distribution of funds to the most locations that do not currently benefit from the advantages of broadband access to

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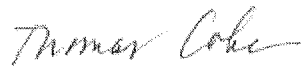
68 Email attachment from CostQuest Associates (cqbatsupport@costquest.com) to Micah Sachs of CSMG (micah.sachs@csmg-global.com), May 15, 2012. "*CSMG*: What is the date of the sourcing of the CapEx equipment price points? If you cannot speak to the direct sourcing, when did you last receive an update of CapEx equipment price points from the Coalition members? *CostQuest Associates*: The input survey started in late March 2011 and completed late May 2011."

the Internet. ACA agrees that as foundational elements in the cost model, it is essential to determine the proper the network design, terminal value and support methodology used. In response, in these comments, ACA submits that by dimensioning costs correctly through use of a brownfield DSL network architecture with terminal value set at economic value, and dimensioning support levels correctly (by basing the cost floor on incremental ARPU), the Commission can be certain that the CAF will offer support to the maximum number of locations in the most economically efficient way. Just as important, dimensioning the costs and support levels correctly will provide sufficient incentive for price cap LECs to accept the funding offered.

ACA looks forward to filing reply comments and working with the Bureau and Commission as it provides "additional opportunities for further public input before a final model is adopted and support levels are established."[69] Because of the importance of the cost model, the Commission should proceed deliberately and transparently to develop the most accurate model so that support is awarded efficiently to the greatest number of unserved locations.

Respectfully submitted,



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July 9, 2012

[69] *Public Notice*, ¶ 5.

Appendix

Declaration of Jim Mitchell

REDACTED – FOR PUBLIC INSPECTION

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
High-Cost Universal Service Support	)	WC Docket No. 05-337
	)	

DECLARATION OF JIM MITCHELL, ARMSTRONG GROUP OF COMPANIES

1. My name is Jim Mitchell. I am Vice President of Regulatory Policy and Interconnection for Armstrong Utilities Inc. (Armstrong). My business address is One Armstrong Place, Butler, Pennsylvania 16001.

2. Armstrong Group of Companies, based in Butler, Pennsylvania, is a long-time owner and operator of rural telephone companies and cable companies operating in Maryland, New York, Pennsylvania, and West Virginia. The telephone companies offer voice and DSL-based broadband services to 14,500 subscribers. The cable companies offer voice, video, and cable modem broadband services to about 400,000 homes and have approximately 250,000 subscribers.

3. Armstrong's cable operations generally compete with unaffiliated telephone companies that offer only voice and lower speed broadband services. In those instances, its penetration of broadband and video subscribers is well over 60%. In addition, its cable operations are constantly looking to expand into areas where there is no current cable service. It has not found overbuilding other cable companies to be economically justifiable.

4. In determining whether expansion is financially justifiable, it has strict payback requirements on the capital expended for the project. It therefore must construct its infrastructure efficiently. It uses its own construction crews, which gives it a great understanding of the processes and costs of construction. Because aerial plant costs less to construct, wherever possible, it selects this method.

5. In Armstrong's experience, building aerial plant costs less than half what building buried plant costs. We estimate the labor cost of building aerial coaxial cable plant to be **REDACTED XXXX REDACTED** a mile and the material cost to be **REDACTED XXXX REDACTED** a mile. In contrast, the labor cost for burial of coaxial cable is **REDACTED XXXX REDACTED** a mile and the materials cost is **REDACTED XXXX REDACTED**. An all-aerial coax build-out therefore costs **REDACTED XXXX REDACTED** a mile vs. **REDACTED XXXX REDACTED** for an all-buried coax build-out. (All of these are direct costs without any corporate overhead.) This large cost difference is one reason most of Armstrong's plant is aerial. The type of plant used for a network build-out is a major determinant of the total cost of the network build-out and is therefore a critical factor to understand when dimensioning any future build-outs.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my information and belief.

Executed on this 27th day of June, 2012

Jim Mitchell