

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Connect America Fund)	WC Docket No. 10-90
)	
A National Broadband Plan for Our Future)	GN Docket No. 09-51
)	
High-Cost Universal Service Support)	WC Docket No. 05-337
)	

**COMMENTS OF
THE NATIONAL ASSOCIATION OF STATE UTILITY
CONSUMER ADVOCATES,
THE MAINE OFFICE OF PUBLIC ADVOCATE, OFFICE OF THE
OHIO CONSUMERS' COUNSEL, PENNSYLVANIA OFFICE OF
CONSUMER ADVOCATE, AND THE UTILITY REFORM
NETWORK
ON
NOTICE OF INQUIRY**

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SUMMARY

Despite the Commission’s statement of purpose, the NoI is absolutely unclear on what specific use the model is to be put once it is developed. The Connect America Fund (“CAF”) – where the model apparently will be used – has yet to be even set out for public comment. These and a host of other key questions need to be addressed **before** the model is finalized, much less applied. This is not just putting the cart before the horse, it is attempting to design the cart before knowing whether it will be drawn by a Percheron, a blood Arabian, or an ox; before knowing whether the road is dirt, gravel, or asphalt; and, even more importantly, before knowing who will pay for the animal, the cart, or the road.

With regard to support for broadband, the apparent focus of the CAF will be availability (in the physical sense), attempting to ensure that broadband services are **present** throughout the Nation. But to ensure that the service is used by consumers (and businesses), the Commission must ensure that the service is affordable where it is available. This is especially true when the Commission’s determination is apparently that there will be only one broadband supplier in an area where support is provided.¹ There will have to be price constraints applicable in such classic monopoly supply environments. Further, as the NBP states, there will also have to be an effort to ensure that the service is **adopted** even where it is available and affordable.

There is a critical need for a thorough audit of the current high-cost universal service program, including a detailed inventory of the level of broadband service available from supported providers. An audit of current high-cost funding recipients can contribute to the accurate assessment of broadband deployment, and better identify funds that can be freed-up to enable new broadband service in unserved areas. The ability of the FCC to manage the size of the fund and to efficiently target support depends on improved verification procedures.

It is imperative that the Commission consider revenues when determining CAF support. Support for the provision of ILEC “basic voice” service through the existing high-cost funding approach has persisted at relatively constant levels in spite of the fact that the provision of basic voice service is likely to be one of many services that a firm may be able to sell to residential consumers. While the scope economies associated with a firm providing basic voice, vertical features, toll, high-speed data, and video services have grown substantially, the demand for basic service support has not declined. This is an irrational economic outcome. As the supported carriers’ scope economies increased, the economically necessary level of subsidy should have declined.

Current funding levels continue to reflect erroneous assumptions that voice services alone are provided over the supported carrier’s network. Supported carriers – particularly rural carriers – have updated their networks to provide broadband, using, in part, universal service funds. With these network upgrades they have also gained access to a new revenue source — broadband service revenue. As a result, a beneficial impact on high-cost universal service funding should arise as some supported carriers have generated operating synergies and economies of scope. The network that should be modeled should be as flexible as possible.

¹ Citations are omitted from this summary, but may be found within the text of the comments.

NASUCA agrees that a model could be developed, and “could provide a more uniform and equitable basis for determining support than individual carrier cost studies or models submitted by interested parties.” But such a model must be a **good** model; as Dr. Trevor Roycroft’s affidavit – included with these comments – shows, the current model has a long way to go in that respect.

It is a particular problem that the broadband model adopted by the Commission does not consider the **price** of the broadband services. A model that provides support to carriers that then turn around and charge unreasonable or unaffordable rates for the broadband services defeats the whole purpose of universal service support.

Given the economies that can be achieved by the joint deployment of voice and broadband, it seems reasonable to develop a model that is capable of estimating these costs. However, it may be that there are currently extreme **diseconomies** of joint provision in some insular areas that would be better addressed through satellite broadband and wireline voice. The model should be flexible enough to identify where these diseconomies exist. To ensure that any cost model is capable of identifying the least-cost most-efficient technology in unserved areas, the model should be transparent, and the process of developing the model should rely on public input.

It is an inherent contradiction to attempt to use “market-based” mechanisms, including auctions, where the market has failed. But the use of a model to set a reserve price for an auction – even an auction doomed to failure -- is a better choice than others available to the Commission.

With regard to the specifics of the model, the staff’s assumptions regarding demand growth result in an unreasonable disadvantaging of rural areas. Given the Commission’s ten-year time horizon associated with the 100 Mbps to 100 million homes objective, the Commission must recognize that the modeling process will be ongoing for an extended period. Thus, the staff’s 20-year timeframe may be reasonable, **as long as the model is kept up-to-date**, both in terms of the technologies used, the costs of inputs and resources, the scope of services sold, and the revenues expected. With regard to what geographic area should be used in the modeling process, this largely depends on the purpose to which the model is to be put, a matter which, as noted above, is hardly clear. If the focus is to be bringing broadband to unserved areas, then the model should use granular enough area so that unserved areas can be identified and separated.

Dr. Roycroft’s affidavit notes that the FCC staff has pursued an ambitious modeling agenda, and that the staff should be commended for their efforts in developing the NBP model. The FCC staff’s modeling offers a valuable start to a process that can be used by the Commission to address the important questions associated with expanding the availability of affordable broadband services to all Americans. However, the staff’s model is only an initial step in the process of universal service reform. Furthermore, the staff’s model does not address key questions, such as what constitutes affordable broadband service.

The main advantage of the staff’s approach lies in evaluating both expected costs and revenues, rather than focusing on costs alone, as was the case with current approach to high-cost support, which applies the Hybrid Cost Proxy Model (HCPM) results to a cost benchmark. By examining costs and revenues, the staff’s approach takes a step in the right direction.

The information that has been provided by the staff—in its reports, through the workshop, and through the web site—is insufficient to allow for a full evaluation of the model. What is clear from these materials is that the current iteration of the NBP model has serious deficiencies that prevent it from being a useful tool for the Commission. Certain choices made by the staff with regard to modeling introduce fatal flaws in the analysis.

In the Commission’s previous decision regarding the appropriate cost methodology, the Commission identified ten criteria that it considered necessary to develop a reasonable economic costing methodology. Unfortunately, the staff model is deficient on most of those criteria.

Rather than planning for an auction, it would be more reasonable for the Commission to plan for *the failure of* auctions. Thus, Dr. Roycroft offers an alternative approach to distributing support. Dr. Roycroft also addresses the mechanism proposed by the *71 Concerned Economists* to address the expedited delivery of support. Should the Commission decide to pursue reverse auctions, in spite of the likelihood that bidding competition will be weak, Dr. Roycroft provides observations on how auctions might be structured to minimize the weak bidding problem.

Finally, NASUCA submits that the Commission should consider the use of established civilian agency procurement procedures set forth in the Federal Acquisition Regulations (“FAR”) to contract for the buildout of broadband networks in unserved areas and for the operation of such networks. As the Commission has noted, the areas identified as unserved are unserved because these areas lack a business case for their development.

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I. INTRODUCTION

On April 21, 2010, the Federal Communications Commission (“FCC” or “Commission”) released a combined Notice of Inquiry (“NoI”) and Notice of Proposed Rulemaking (“NPRM”).² The NoI sought “comment on whether the Commission should use a model to help determine universal service support levels in areas where there is no private sector business case to provide broadband and voice services.”³ The NoI also sought “comment on the best way [for the Commission] to create an accelerated process to target funding toward new deployment of broadband networks in unserved areas, while [it is] considering final rules to implement fully a new CAF funding mechanism

² FCC 10-58 (“NoI/NPRM”).

³ NoI/NPRM, ¶ 2.

that efficiently ensures universal access to broadband and voice services.”⁴ The accompanying NPRM sought “comment on specific common-sense reforms to cap growth and cut inefficient funding in the legacy high-cost support mechanisms and to shift the savings toward broadband communications.”⁵ The NoI and NPRM are part of the Commission’s implementation of the National Broadband Plan (“NBP”).⁶

The National Association of State Utility Consumer Advocates (“NASUCA”)⁷ files these comments on the NoI. Despite the NoI and NPRM being published in the same document – and on the same schedule – the significantly different focuses and purposes of the two requests for comment necessitate separate comments.

The Commission describes the purpose of the National Broadband Plan (NBP) model⁸ as follows:

To estimate the amount of additional funding required to close the broadband availability gap, Commission staff developed an economic model to estimate the level of additional funding that would be required to extend broadband service to the estimated 7 million housing units that presently are unserved by broadband that provides 4 Mbps actual download speed, 1 Mbps upload speed, and acceptable quality of service for the most common interactive applications.⁹

⁴ Id.

⁵ Id.

⁶ See NoI/NPRM, ¶ 2. The NBP was released March 16, 2010 as *Connecting America: The National Broadband Plan*.

⁷ NASUCA is a voluntary, national association of consumer advocates in more than 40 states and the District of Columbia, organized in 1979. NASUCA’s members are designated by the laws of their respective states to represent the interests of utility consumers before state and federal regulators and in the courts. Members operate independently from state utility commissions, as advocates primarily for residential ratepayers. Some NASUCA member offices are separately established advocate organizations while others are divisions of larger state agencies (*e.g.*, the state Attorney General’s office). Associate and affiliate NASUCA members also serve utility consumers, but have not been created by state law or do not have statewide authority.

⁸ The NoI refers to the staff’s model as the “National Broadband Plan model.” However, the staff documentation identifies the model alternatively as the “Broadband Availability Gap model” or the “Broadband Assessment Model (BAM).” For consistency, these comments and Dr. Roycroft’s affidavit use the “NBP model” designation to refer to the staff’s model, although direct quotations from documents may contain any of these designations.

⁹ NoI, ¶ 12, citing Omnibus Broadband Initiative, The Broadband Availability Gap (OBI Technical Paper No. 1) at 1-3 (OBI, The Broadband Availability Gap), attached to the NoI as Appendix C.

Despite that statement of purpose, the NoI is absolutely unclear on what specific use the model is to be put once it is developed. The Connect America Fund (“CAF”) – where the model apparently will be used – has yet to be even set out for public comment. These and a host of other key questions need to be addressed **before** the model is finalized, much less applied. This is not just putting the cart before the horse, it is attempting to design the cart before knowing whether it will be drawn by a Percheron, a blood Arabian, or an ox; before knowing whether the road is dirt, gravel, or asphalt; and, even more importantly, before knowing who will pay for the animal, the cart, or the road.

Thus among the key questions that the NoI does not raise include: whether the 4 megabytes per second (“4Mbps”) upstream/1 Mbps downstream service on which the model is based is appropriate as a national standard (especially given the stated goal of the NBP to bring 100 Mbps service to 100 million homes¹⁰); how much broadband at these speeds will cost consumers; whether there should be a matching requirement for the states; and, in the end, how the support will be distributed, whatever the level of service

NASUCA has attempted to limit these comments to the specific issues raised in the NoI, rather than attempting to address the multitude of issues implicated by the NoI. NASUCA’s comments are supported by and rely on the accompanying affidavit of Dr. Trevor R. Roycroft.¹¹

Before moving to those comments, at this point and in this context, we must raise serious questions about the “long range goal” stated in the NBP to “replace all the legacy High-Cost programs” with the new “Connect America Fund.”¹² Based on the explicit descriptions of the CAF, it appears that its focus is to provide support only “where there is no private sector business case to

¹⁰ NBP, p. 9.

¹¹ Dr. Roycroft’s engagement was supported by the Maine Office Of Public Advocate, Office of the Ohio Consumers’ Counsel, Pennsylvania Office of Consumer Advocate, and The Utility Reform Network.

provide broadband and high-quality voice-grade service....”¹³

Although NASUCA fully supports providing support for broadband,¹⁴ this does not mean that support for broadband can completely replace support for traditional voice services, or that such support can be limited to areas where, in the absence of support, there is no “business case” for supplying “high-quality voice-grade service.”¹⁵ The benefits of the robust traditional telephone network have been described in other NASUCA comments.¹⁶ More fundamentally, the statutory directives for “affordable” basic **telecommunications services**, and for telecommunications services in rural areas that are reasonably comparably priced to those in urban areas **still exist**;¹⁷ they have not be replaced by the directives regarding advanced services.¹⁸ Thus federal support can and should be required for those services regardless of the “business case” for the services.¹⁹

With regard to support for broadband, the apparent focus of the CAF will be availability (in the physical sense), attempting to ensure that broadband services are **present** throughout the Nation. But to ensure that the service is used by consumers (and businesses), the Commission must ensure that the service is affordable where it is available. This is especially true when the Commission’s determination is apparently that there will be only one broadband supplier in an area where support

¹² NoI/NPRM, ¶ 10.

¹³ Id.

¹⁴ One of the many questions not addressed in this particular NPRM is whether broadband services should be required to **provide** support as well as receive it.

¹⁵ Id.

¹⁶ *In the Matter of Effects on Broadband Communications Networks Of Damage to or Failure of Network Equipment Or Severe Overload*, PS Docket 10-92, NASUCA Comments (filed June 25,2010).

¹⁷ 47 U.S.C. § 254(b)(1), (3).

¹⁸ See 47 U.S.C. § 254(b)(2). Indeed, § 254(b)(3) says that “[c]onsumers in all regions of the Nation, including low-income consumers and those in rural, insular and high-cost areas, should have access to telecommunications **and** information services ... that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban area.” (Emphasis added.)

¹⁹ Which is not to say that all areas currently receiving support need the full (or any) amount of such support to maintain affordable and reasonably comparable rates, as discussed below.

is provided.²⁰ There will have to be price constraints applicable in such classic monopoly supply environments.²¹ Further, as the NBP states, there will also have to be an effort to ensure that the service is **adopted** even where it is available and affordable.²²

II. THE FCC MUST PUT ITS EXISTING UNIVERSAL SERVICE SUPPORT HOUSE IN ORDER

There is a critical need for a thorough audit of the current high-cost universal service program, including a detailed inventory of the level of broadband service available from supported providers. As was discussed above, there is insufficient data on current broadband availability that may be remedied through broadband mapping initiatives. However, mapping does not go far enough. An audit of current high-cost funding recipients can contribute to the accurate assessment of broadband deployment, and better identify funds that can be freed-up to enable new broadband service in unserved areas. The ability of the FCC to manage the size of the fund and to efficiently target support depends on improved verification procedures. The FCC should conduct a baseline audit of supported companies that identifies key information on:

- Which supported companies have deployed broadband;
- The specific investments made that have enabled broadband;
- The extent of broadband availability within supported companies' service areas;
- The quality of broadband, as measured in upload and download speeds, available from supported companies;
- The price of broadband services available from supported companies;
- Current voice and broadband subscription rates and revenues for each supported company, and

²⁰ NBP, p. 145.

²¹ For example, price limitations should be made a condition of accepting the support.

²² Id., p. 167.

- Specific technical impediments that have limited ubiquitous broadband deployment in a supported broadband provider’s service area.

Adding this information to that currently required by the FCC will allow the FCC to assess the impact of current subsidy disbursements on broadband deployment. Such an audit will also help the FCC determine the investments necessary to make high-quality broadband universally available, and identify best practices. Support for a unified network platform that delivers voice and broadband can help to ensure high-quality voice and broadband services at lower costs. This approach will also appropriately identify revenue sources that can offset the need for support.²³

Importantly, the Commission also seeks “comment on whether the Commission should consider revenues, as well as costs, in determining CAF support.”²⁴ It is imperative that the Commission consider revenues when determining CAF support.²⁵ Support for the provision of ILEC “basic voice” service through the existing high-cost funding approach has persisted at relatively constant levels in spite of the fact that the provision of basic voice service is likely to be one of many services that a firm may be able to sell to residential consumers. While the scope economies associated with a firm providing basic voice, vertical features, toll, high-speed data, and video services have grown substantially, the demand for basic service support has not declined. This is an irrational economic outcome. As the supported carriers’ scope economies increased, the economically necessary level of subsidy should have declined.

Current funding levels continue to reflect erroneous assumptions that voice services alone are provided over the supported carrier’s network. Supported carriers – particularly rural carriers – have updated their networks to provide broadband, using, in part, universal service funds. With

²³ Roycroft, p. 5.

²⁴ NoI, ¶ 35.

²⁵ Roycroft, p. 6.

these network upgrades they have also gained access to a new revenue source — broadband service revenue. As a result, a beneficial impact on high-cost universal service funding should arise as some supported carriers have generated operating synergies and economies of scope. The network that should be modeled should be as flexible as possible.

Supported carriers have integrated their operations and no longer view themselves as “voice telephone companies.” For example, CenturyTel, a company that received \$308.3 million in Federal support in 2009, describes its operations as follows:

We are an integrated communications company engaged primarily in providing an array of communications services to our customers, including local exchange, long distance, Internet access and broadband services. We strive to maintain our customer relationships by, among other things, bundling our service offerings to provide our customers with a complete offering of integrated communications services.²⁶

Similarly, Windstream, which received \$124 million in Federal support in 2009 indicates that it is:

[A] customer-focused telecommunications company that provides phone, high-speed Internet and digital television services. The Company also offers a wide range of IP-based voice and data services and advanced phone systems and equipment to businesses and government agencies.²⁷

These supported carriers have broadband connections that amount to about 30% of voice lines, but enjoy broadband and data revenues that are about 70% of voice revenues.²⁸ These facts point to a deep integration of voice and broadband services and clearly illustrate the need to fully consider the revenue potential associated with broadband, and the relationships between shared costs and the revenues generated from the multiple service families sharing the facilities.²⁹

The Commission then asks for comment on the methodology that the National Broadband

²⁶ CenturyTel 10-K, March 1, 2010, p. 122.

²⁷ Windstream 10-K, February 24, 2010, p. 2.

²⁸ CenturyTel 10-K, p. 55; Windstream 10-K, p. F-7.

²⁹ The Commission also asks how it should treat the costs of video programming. *Id.*, ¶ 37. Video revenues should be counted, net of programming costs.

Plan model would use to estimate incremental revenues.³⁰ As was discussed earlier, for supported carriers, an audit should be used to garner information on revenues. Alternatively, the Commission could utilize information from public sources, such as annual reports, to develop incremental revenue estimates.

III. GENERAL MODEL ISSUES

In paragraphs 14-42 of the NOI, the Commission asks questions that apply generally to cost models for assessing broadband costs and deployment. These questions are important, to lay the foundation for the questions on the NBP model, but the main focus of NASUCA's comments is Dr. Roycroft's affidavit, which addresses the specifics of the NBP model, commenting particularly on the lack of transparency in the details of the model that have been revealed to date.

A. *Use of a Model*

The Commission seeks "comment on whether the Commission should develop a nationwide broadband model to estimate support levels for the provision of broadband and voice service in areas that are currently served by broadband with the aid of legacy high-cost support, as well as areas that are unserved."³¹ NASUCA agrees that a model could be developed, and "could provide a more uniform and equitable basis for determining support than individual carrier cost studies or models submitted by interested parties."³² But such a model must be a **good** model; as Dr. Roycroft's affidavit shows, the current model has a long way to go in that respect.³³

A model will be especially useful for providing support where the current market (or indeed any real "market-based" mechanisms has and will fail to provide affordable and reasonably compa-

³⁰ Id., ¶ 38.

³¹ NoI, ¶ 17.

³² Id.

³³ Roycroft pp. 11-35.

able broadband services.³⁴ By applying a model to evaluate the integrated provision of voice and broadband services, the Commission can gain an understanding of the total cost of provision, and consider revenues from all services that utilize the shared facilities that provide voice and broadband service. Given that current support is primarily for incumbent local exchange carriers (“ILECs”) (and that the Commission is contemplating eliminating support for wireless carriers), this application of the model would suggest a focus on ILEC wireline facilities.

One interpretation of the expected use of the NBP model contained in the NoI is as a tool to reset the level of high-cost support received by legacy recipients for supported voice services. This interpretation of the NBP model results suggests a conventional application of a cost model, such as that associated with the FCC’s high-cost proxy model (“HCPM”) in determining the level of support for non-rural ILECs. Alternatively, the NoI seeks comment on whether the NBP model can provide a tool that will be used to support alternative mechanisms for distributing support, or to identify high-cost areas. If this alternative approach is pursued, the application of the model would appear to be an intermediate step in the process of determining the support level, with the market-based mechanism generating the ultimate subsidy level.

These two general paths might appear to suggest different levels of rigor associated with modeling costs and revenues. In the first approach, the model is used to determine the level of support for the integrated provision of voice and broadband services, thus replacing the legacy mechanisms. If it is the intention of the Commission to apply a new model to address the integrated provision of voice and broadband services for all supported ILECs, the Commission would be wise to apply a high degree of rigor in determining the structure of the model, how the model will be applied, and what input prices will be utilized in the modeling process. The Commission can draw

³⁴ See NoI., ¶ 18-20.

from its experience in the proceedings leading up to the *Platform Order*, *Methodology Order*, and the *Input Price Order*³⁵ to shape the new model, should the Commission ultimately determine that the HCPM cannot be updated.

The second approach mentioned in the NoI suggests that the Commission will not rely on conventional cost-based approaches to determine the necessary level of subsidy. Rather, the Commission will apply some type of “market-based” mechanism, most likely involving bidding for support. Thus, the model becomes an input in assisting the Commission with structuring the market-based mechanism, rather than the final determinant of the level of support. If the market-based approach is successful, i.e., a substantial number of bidders engage in earnest competition for the support that is available, the model’s results will be more likely to have short-lived usefulness. However, as discussed in Dr. Roycroft’s affidavit,³⁶ there is ample reason to believe that a market-based approach will not result in efficient levels of support being produced. Thus, the model could be needed to set support levels, rather than simply serving as a reference tool. For this reason, it is reasonable to develop a rigorous model regardless of the ultimate approach utilized.

If the Commission hopes to reform universal service funding, it must ultimately address the level of support in areas that already satisfy the Commission’s broadband standard. As discussed in Dr. Roycroft’s affidavit,³⁷ economic cost analysis is needed to identify the appropriate level of funding for network expansion. An embedded cost approach will not yield reasonable results to determine the costs of either supporting areas that are already served, or expanding broadband facilities into unserved areas. Application of forward-looking cost analysis to the legacy support levels as-

³⁵ 96-45, et al, Fifth Report and Order, FCC 98-279 (rel. October 28, 1998) (“*Platform Order*”); 96-45, Ninth Report and Order and Eighteenth Order on Reconsideration, FCC 99-306 (rel. November 2, 1999) (“*Methodology Order*”); 96-45, et al, Tenth Report and Order, FCC 99-304 (rel. November 2, 1999) (“*Input Price Order*”).

³⁶ Roycroft, pp. 9-10.

³⁷ Roycroft, p. 12.

sociated with rural ILECs may result in disconnects between the level of current support, and the level of cost support identified by the application of a forward-looking cost model (and a complete accounting of current revenues).

It is a particular problem if the broadband model adopted by the Commission does not consider the **price** of the broadband services.³⁸ A model that provides support to carriers that then turn around and charge unreasonable or unaffordable rates for the broadband services defeats the whole purpose of universal service support.³⁹

It is an inherent contradiction to attempt to use “market-based” mechanisms, including auctions, where the market has failed. But the use of a model to set a reserve price for an auction – even an auction doomed to failure -- is a better choice than others available to the Commission. That certainly includes use of current support levels,⁴⁰ most of which have little connection to actual costs of telephone service, much less the cost of providing broadband service. It may well be that the most valuable role that a model can fulfill is to evaluate the level of support that is currently being provided to rural ILECs that already provide broadband service. The application of a model

³⁸ Just as the Commission’s cost model for non-rural carriers does not factor in the price of the basic services being considered; the Commission merely presumes that support based on the cost model will yield affordable and reasonably comparable basic services. See NASUCA comments on the companion NPRM.

³⁹ If the final distribution mechanism for broadband support is some type of reverse or procurement auction, the Commission will necessarily rely on a process with voluntary participation — bidders cannot be compelled to participate. As discussed in Dr. Roycroft’s affidavit (at pp. 37-39), whether the Commission can reasonably expect that an auction mechanism of some type can deliver competitive bidding that is sufficiently robust to ensure an efficient outcome is a questionable proposition. Regardless of the distribution mechanism utilized for broadband support, the Commission must recognize that a key element in determining the efficient level of support is the price of the supported service. There is no mention of this issue in the NoI. If the Commission does not constrain the price for basic broadband service, evaluation of a winning bid in an auction will be impossible and futile. Absent a price constraint on the supported service, bidders could game the system by offering a low bid, but charging a higher price for the supported service. As the Commission has indicated that the extension of broadband into unserved areas will be on a monopoly basis, there is every reason to expect that the winning bidder will be operating a protected monopoly, and will have market power. The price charged by the winning bidder will have an impact on the level of broadband penetration, and on the objective of affordable broadband. Thus, the Commission must review the prices of supported services and ensure that they are affordable.

⁴⁰ NoI, ¶ 21.

would provide the Commission with some means to introduce meaningful reform.

The key component of this question is whether the Commission should use the NBP model as the “starting point.” As discussed in Dr. Roycroft’s affidavit,⁴¹ based on the information supplied by Staff to date, the model remains a “black box.” Absent the ability to examine the workings of the model in detail, whether the NBP model is the correct starting point is uncertain. The process of developing the HCPM is instructive. To arrive at the conclusions that were ultimately reflected in the *Platform Order, Methodology Order, and Input Order*, the FCC combined modeling elements of industry-sponsored and Staff models.⁴² The process of developing the model and its resulting application by the FCC was transparent — the algorithms associated with the model were thoroughly explained, the model could be downloaded from the FCC’s web site and run by any party. Input values could be altered. A similar level of transparency is currently not available from the NBP model. While some documentation has been provided, and some summaries of output files are available from the Broadband.gov web site, the operations of the NBP model remain unknown.

One means of gaining an understanding of the NBP model would be to perform a benchmark test with the HCPM. The NBP model could be run in a copper-loop configuration using the publicly-available input values currently in place for the HCPM. This would enable a comparison of the loop cost results from the two models, and would shed some light on how the model performs as compared to the already-vetted HCPM model.⁴³

The Commission Should Prepare for Auction Failure

While it is possible that competitive bidding, such as the use of an auction, could dispense with the need for economic cost analysis, whether there will be sufficient competitive entry in high-

⁴¹ Roycroft, pp. 30-35.

⁴² 96-45, et al, Fifth Report and Order (rel. October 28, 1998), ¶ 4.

⁴³ Roycroft, p. 32.

cost market areas to ensure that competitive bidding will generate efficient outcomes is uncertain, and the Commission must be prepared to address situations where “auction failure” occurs. A robust model could be useful in these circumstances.

The Commission must carefully consider what it would do if it met with outright failure of auctions, or mixed success (i.e., bidder interest in some areas, no bidder interest in other areas). If auctions fail, would the Commission, like *Casablanca’s* Inspector Renault, “Round up the usual suspects,” i.e., the ILECs, any facilities-based CLECs, and any fixed or mobility wireless providers that operated in the target area and negotiate the delivery of the services? Under this scenario, the results of the model could serve as a starting point of negotiation, with the final level of support resulting from a process of give-and-take.⁴⁴ As is discussed by Dr. Roycroft, the Commission’s broadband objectives would be better served if it designs a new incentive regulatory structure to address broadband deployment. The ultimate design of any new regulatory mechanism with regard to broadband deployment hinges in no small part on the results of the modeling process. Projecting the least costly technology deployment path will necessarily influence how the Commission should proceed. If the least cost deployment path predicts starting with ILEC technology, then the Commission’s regulatory approach could be directed at the ILECs, and leverage existing support mechanisms (as well as Commission authority over the ILECs). On the other hand, as the Commission’s ultimate goal is to deploy 100 Mbps service, it must face the fact that legacy ILEC technology platforms are unlikely to be capable of delivering this level of service. Sooner or later the Commission will confront the prospect of supporting the deployment of a new technology platform. Keeping all options open with regard to the encouragement of alternative providers, such as municipal fiber or

⁴⁴ As was mentioned above, given the lack of carrier of last resort obligations for broadband, the Commission would appear to lack the leverage that it and state commissions have enjoyed with the provision of voice services in areas where high costs might interfere with a successful business case.

cable systems, would appear to be a reasonable course of action.⁴⁵ As will be discussed in more detail below, the use of established civilian agency procurement procedures could provide the necessary framework to establish the incentive structure to build out broadband into unserved areas.

Staff Predicts that Use of an Auction will Result in Excess Profits

The use of a model could be valuable in assisting with the Commission’s goals; however, care must be exercised in the interpretation of the model’s results. For example, consider the Staff’s development of the size of the broadband “gap,” which is estimated at \$23.5 billion. To arrive at this figure, the Staff applied assumptions that are based on auction theory — i.e., that an auction for high-cost support would result in a “second price” outcome.⁴⁶ As a result, Staff’s application of the model results predicts a broadband gap of \$23.5 billion based on the second-lowest cost technology platform — even though the model predicts the gap with the lowest cost technology to be \$8 billion.⁴⁷ The staff’s approach is based on the assumption that there will not be much bidding competition.⁴⁸ If the staff is correct regarding the lack of bidding competition, then the use of a market mechanism will come at much too high a cost, as shown by the \$15 billion premium identified in the staff discussion. While the staff report correctly states that only a profitable business case will induce investment, the market-based approach will likely result in excessive profits, due to weak bidding competition. Presumably, the application of the model will provide the Commission with information that is outside the scope of what normally might be expected in the information eco-

⁴⁵ Roycroft, pp. 39-41.

⁴⁶ In a second-price reverse auction, the lowest bidder would win, but would only be required to pay the second lowest price. In response to questions at the May 6, 2010 workshop as to why the \$23.5 billion was the right number, FCC Staffers described an auction dynamic where low-cost technology bidder would gravitate to the cost level associated with the second-lowest cost technology. Of course, such an outcome could only occur if there were not multiple bidders associated with the low-cost technology. Thus, the Staff’s approach appears to reflect the anticipation of a lack of competitive bidding.

⁴⁷ “The Broadband Availability Gap,” p. 39.

⁴⁸ Roycroft, p. 9.

nomics of an auction setting. The Staff’s approach to estimating the size of the gap fails to leverage that information in any way. To the extent that the Commission applies a similar logic to the distribution of support in its attempt to fill the broadband gap, the Commission will pay an unnecessary premium for the delivery of services, and deliver excessive profits.

Should the Commission apply an auction approach to the distribution of support, it would be well-advised to utilize the information from the model to set reserve prices at some small increment above the model’s projected costs associated with the least-cost technology. This approach would improve the efficiency of the outcome by leveraging the information generated by the model. Setting a reserve price well below the second lowest-cost technologies’ threshold value would also encourage the firm that is associated with the second-lowest-cost technology to “sharpen its pencil” by weighing the level of subsidy in light of aspects of its business plan that can never be fully considered by an independent model (e.g., specific marketing strategies, “add-on” services offered by the firm, purchasing economies or unused equipment that may be specific to the firm, economies of scale that may be available due to the proximity of the unserved area to other areas that are already served by the company, etc.). Of course, if the number of potential bidders is small (which seems to be a reasonable expectation), then the bidders may behave collusively and cause the auction to fail at the lower reserve price. However, this problem is not alleviated by raising the reserve price (which appears to be the Staff’s interpretation) — the bidders could still collude to drive up the higher reserve. The lack of entry in an auction is a risk that the Commission must recognize in the larger context of whether auctions hold any promise as a mechanism to distribute support.⁴⁹

As a concluding matter, it is acknowledged in the NoI, and in the Staff report, that what areas are currently unserved is unknown. This information is critical to both the cost modeling proc-

⁴⁹ Roycroft, p. 46.

ess, and to the ultimate delivery of support. Once there is information on the availability of existing services, and on where the Commission’s benchmark broadband service is unavailable, then the model should be used to predict the level of support needed in various unserved areas.

B. Cost basis for models

It is important to use forward-looking economic cost (“FLEC”) as a standard even for currently unserved areas. The Commission’s rationale for the use of FLEC continues to be valid, and perhaps even more so regarding the deployment of broadband.⁵⁰

There is no question that principles that are long-run, incremental, and forward-looking should be utilized. The application of these principles can be applied to areas that are already served, should the Commission evaluate the current level of support.

The NoI is not particularly clear when it uses the “total” and “incremental” concepts.⁵¹ What is important is that the long-run incremental costs of providing **all** supported services are calculated. If a supported provider currently provides voice and data, the forward-looking total incremental costs should be evaluated. If the carrier currently provides only voice services, the integrated provision of both voice and data services is the outcome of the addition of broadband, thus, the appropriate modeling must address the costs of the integrated provision of these services, leaving forward-looking total incremental costs of providing voice and broadband as the appropriate metric.

The Commission also seeks “comment on what technology platforms should be included in the forward-looking cost model...”⁵² Specifically, comment is sought on whether the model should

⁵⁰ Roycroft, p. 12. *Id.*, ¶ 23.; see also *id.*, n.48. (not sure which *id.* is the target)

⁵¹ *Id.*, ¶ 33.

⁵² *Id.*, ¶ 24.

be “company- and technology-agnostic....”⁵³

It is difficult to see, despite the Commission’s aspirations, how a single “technology-agnostic” model can be developed when the capabilities of the various technologies are so different.⁵⁴ As a general proposition, given the need to address the provision of broadband and voice services,⁵⁵ then modeling should only address technologies that are capable of the joint provision of voice services. Future satellite technologies might be compatible with voice and broadband provision. For example, low-earth orbiting systems might emerge that could jointly provide voice and broadband, even though previous attempts to deploy that type of system have failed.

Given the economies that can be achieved by the joint deployment of voice and broadband, it seems reasonable to develop a model that is capable of estimating these costs. However, it may be that there are currently extreme **diseconomies** of joint provision in some insular areas that would be better addressed through satellite broadband and wireline voice. The model should be flexible enough to identify where these diseconomies exist. To ensure that any cost model is capable of identifying the least-cost most-efficient technology in unserved areas, the model should be transparent, and the process of developing the model should rely on public input.⁵⁶

Further, contrary to the premises of the staff model, there still remain significant differences between fixed and mobile broadband. While wireless technology and wireline technology can, today, both meet the minimal 4 Mbps standards proposed in the NBP, the ultimate goal of deploying a network capable of 100 MB means the choice of a provider or a technology that could not reasona-

⁵³ Id. ; see also id., ¶ 25.

⁵⁴ It should be recalled that the original USF “technology neutral” concept produced the unexpected and unfortunate growth of the fund by the expansion of funding to competitive eligible telecommunications carriers, primarily wireless companies.

⁵⁵ See NoI, ¶ 25.

⁵⁶ Roycroft, p. 29.

bly or affordably meet the ultimate network goals.⁵⁷ Fixed wireless would result in those customers served by such technology, although least cost today, “riding at the back of the cyber-bus” as we move to the future.⁵⁸

The NBP model does estimate the costs of constructing wireless facilities. However, the model does not estimate the costs of the carrier verifying the level of service to the newly served area. Nor does the NBP model calculate the cost that the FCC will incur in verifying that wireless broadband is available at the required speeds in each service area. Given the geographic scope of the coverage, these costs are likely to be substantial. These costs should be included in the overall cost estimate.⁵⁹

The other technologies – such as broadband over power-line (“BPL”) and the possible broadband-in gas (“BiG”)⁶⁰ – also have significantly different characteristics and costs. It is not clear whether these technologies are sufficiently “ready for prime time” to be included in any useful model.

In the end, the technology platforms should reflect those that are capable of delivering the Commission’s broadband objectives. The Commission should identify the least-cost technology paths that are consistent with the 100 Mbps objective.⁶¹ At this point, it is not clear whether a single integrated model is possible or necessary. But what is possible is that any modeling all relies on a common set of assumptions, and a common set of structural characteristics (e.g., forward-looking

⁵⁷ Roycroft, p. 23.

⁵⁸ It is reasonable to consider that once we have made the decision to support mobility technology based on its own merits, that the mobility broadband goals need not be necessarily tied to the wireline broadband standard. Indeed, mobility consumers of the future will almost certainly demand and deserve broadband products and services that significantly differ from those who chose to subscribe to the voice/broadband network.

⁵⁹ Roycroft, pp. 16-17.

⁶⁰ See <http://www.gizmag.com/go/4039/>.

⁶¹ Roycroft, pp. 39-41.

and long run). Whether the actual model is integrated, or has “modules” is a secondary issue, as long as there is a unifying set of assumptions that drive the structure of the model(s).

C. Role of the HCPM

The Commission seeks “comment on whether the Commission should develop a new model for determining appropriate universal service support levels for modern networks, rather than updating and modifying the Commission’s existing HCPM used to determine high-cost support for the provision of voice telephony by non-rural carriers.”⁶² In brief, the Commission should develop a new model for broadband support, but the specifics of the model, especially with regard to a future role of HCPM are not clear, due to the lack of information associated with the NBP model.

The HCPM might not be ready for pasture. It is possible that the HCPM could be a better alternative to using CostQuest’s CostPro Loop for the wireline components as does the NBP model.⁶³ Alternatively, HCPM might play a role in the evaluation of CostPro Loop.⁶⁴ Absent more detailed information on the operations of NBP model, and the underlying CostPro Loop, it may be that rebuilding the HCPM is superior.

D. Time Horizon Associated with Modeling

Here the many limitations of the model influence the timeframe, including the staff’s assumptions regarding broadband demand. The staff’s assumptions regarding demand growth result in an unreasonable disadvantaging of rural areas.⁶⁵

Given the Commission’s ten-year time horizon associated with the 100 Mbps to 100 million homes objective, the Commission must recognize that the modeling process will be ongoing for an

⁶² NoI, ¶ 31.

⁶³ See Roycroft at 32.

⁶⁴ The process of developing the HCPM involved the Commission’s evaluation of the NBP model’s predecessor model, the BCPM, which was developed by CostQuest and sponsored by BellSouth Corporation, BellSouth Telecommunications, U.S. West, and Sprint. The Commission rejected the BCPM in favor of the HCPM.

extended period. Thus, the staff's 20-year timeframe may be reasonable, **as long as the model is**

⁶⁵ Roycroft, p. 23.

kept up-to-date, both in terms of the technologies used, the costs of inputs and resources, the scope of services sold, and the revenues expected.⁶⁶ This point raises another issue, namely, how long will a supported carrier receive the level of support? Will the annual support for recurring expenses remain at the same level indefinitely, or will the level of support be put up for bid on a periodic basis? The Staff report notes that approximately 65% of the costs associated with closing the broadband gap are associated with fixed investments that occur in the initial period, and that operating revenues and operating expenses, including replacement capital expenditures (“capex”) largely offset one another.⁶⁷ This appears to suggest little need for ongoing operational support.

Finally, the Commission asks what discount rate should be used for the model, noting that the model uses the Commission’s 11.25%.⁶⁸ For the reasons explained in Dr. Roycroft’s affidavit,⁶⁹ this decades-old discount rate **must** be updated to reflect current conditions.

E. Geographic areas

The Commission seeks comment on what geographic area should be used in the modeling process.⁷⁰ The NBP model uses counties as the geographic unit of analysis.⁷¹

This largely depends on the purpose to which the model is to be put, a matter which, as noted above, is hardly clear. If the focus is to be bringing broadband to unserved areas, then the model should use granular enough area so that unserved areas can be identified and separated.

The Commission’s question appears to be assuming, however, the application of a bidding

⁶⁶ NoI, ¶ 40. Updating should be a continuous iterative process, but an 18-month update is the minimum interval that should be used.

⁶⁷ The Broadband Availability Gap, p. 33 and p. 34.

⁶⁸ NoI, ¶ 40.

⁶⁹ Roycroft pp. 17-18.

⁷⁰ NoI, ¶ 41.

⁷¹ Id., 42.

approach. The determination of “bidding areas” is a difficult aspect of initiating an auction. The NBP model focus on county-level cost estimates suggests county-level bidding areas. Unfortunately, corporate geographies and political geographies are rarely in harmony. ILEC and wireless providers are not likely to have deployed network facilities with county boundaries in mind. Multiple ILECs often operate in legacy service areas in a particular county. Cable operators may have some county-based franchise areas, but are not limited to this geographic context.

A census-block-level analysis would clearly be more granular, adding to the complexity of the model. But such an approach appears more likely to match both current serving areas of broadband providers and the areas which are **not** served by any current provider. Again, the required granularity will depend on the purpose to which the model is put.

IV. COMPETITIVE PROCUREMENT

NASUCA submits that the Commission should consider the use of established civilian agency procurement procedures set forth in the Federal Acquisition Regulations (“FAR”) to contract for the buildout of broadband networks in unserved areas and for the operation of such networks.⁷² As the Commission has noted, the areas identified as unserved are unserved because these areas lack a business case for their development.⁷³

For the reasons discussed above, use of reverse auctions have multitude of issues which makes their use problematic at best. NASUCA recommends that the Commission use a request for proposal process to award contracts for each unserved area by soliciting proposals from entities⁷⁴ in

⁷² The Federal Acquisition Regulations applicable to civilian agencies, including the Federal Communications Commission are set forth in Title 48 of the Code of Federal Regulations.

⁷³ NoI/NPRM, ¶ 2.

⁷⁴ This would include satellite operators, wireline and wireless companies, electric companies (broadband over power lines), local governments, and others.

accordance with the regulations set forth in 48 CFR Subpart 15.2. Section 15.203(a) authorizes the use of request for proposals (“RFP”) for negotiated acquisitions, and the RFP is the vehicle used to communicate the requirements to prospective offerors. The Commission should request technical and cost proposals from potential offerors and make awards based upon the best value to the government and the public based upon technical and cost factors.

The Commission should develop specifications around the performance requirements it deems necessary for the broadband networks in each unserved area. The technical proposals would include the offeror’s approach to meet the performance requirement for the buildout of the system, along with how the network will be operated and maintained after it is built. Detailed cost proposals for the buildout and the operation of the system would be submitted and would be evaluated in accordance with Subpart 15.4 of the FAR. The buildout would be funded through the CAF and the ongoing operation and maintenance would be funded by revenues derived from the services offered to households in the unserved area. If necessary, some ongoing support from the CAF could be made available for operation and maintenance.

The evaluation of proposals would use the source selection process described in Subpart 15.3 of the FAR. The Commission would select the most appropriate type of contract for each unserved area in accordance with the regulations set forth in Subpart 16 of the FAR.

The Commission should consider requiring each offeror to propose a stand-alone structurally separate entity for the buildout and operation and maintenance of the network. This will enable a thorough analysis of the actual costs for the network actually being contracted for with minimal allocation of general and administrative costs.

V. SPECIFIC NBP MODEL CRITICISMS

As discussed above, NASUCA and certain of its members have retained Dr. Trevor Roycroft to examine the NBP model and provide constructive criticisms of the model's inputs, methodologies and results. Dr. Roycroft's affidavit, which sets forth his qualifications and conclusions in detail, is attached to these comments. Rather than attempt to summarize those conclusions here, NASUCA refers the Commission to the affidavit. NASUCA and its members fully support Dr. Roycroft's conclusions.

VI. EXPEDITED PROCESS FOR PROVIDING FUNDING TO EXTEND NETWORKS IN UNSERVED AREAS

Dr. Roycroft also addresses the Commission's request for comment on an "expedited process for providing funding to extend networks in unserved areas."⁷⁵ Here again, NASUCA will not attempt to summarize Dr. Roycroft's expert analysis, but will add a few questions to that analysis.

Does not this concept (of providing support before the model is finalized) supersede the idea of using the model primarily to bring support to unserved areas? And how will the provision of support using this expedited process impact the operation of the model – if and when it is finalized?

How will this expedited process be prioritized? (Presumably this process will not provide support for all unserved areas.) If this is done by maximizing the number of households,⁷⁶ doesn't this "biggest bang for the buck" approach leave those areas that are worst off just as far behind?

Finally, with regard to the reverse auction proposal for the "expedited process,"⁷⁷ NASUCA would again refer the Commission to the criticisms above, in Dr. Roycroft's affidavit,⁷⁸ and in

⁷⁵ See NoI, ¶¶ 43-48; Roycroft Affidavit at 42-43..

⁷⁶ See NoI, ¶¶ 43, 46-47.

⁷⁷ Id., ¶¶ 44-45.

⁷⁸ Roycroft 42-43.

NASUCA's previous comments on this issue.⁷⁹ The key problems for the use of auctions in this context – providing service to areas where there is currently no business case for the service – are finding bidders and determining the reserve price.⁸⁰

VII. CONCLUSION

NASUCA appreciates the opportunity to comment on these important issues. NASUCA hopes that the Commission will take full consideration of these comments, and looks forward to further participating in the process of bringing the benefits of broadband service to all Americans.

Respectfully submitted,

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⁷⁹ 05-337/96-45, NASUCA Comments on Using Reverse Auctions to Determine High-Cost Universal Service Funding (April 17, 2008).

⁸⁰ If the notion is to use the model to set the reserve price before the model itself is finalized, then the reserve price will incorporate the flaws of an incomplete model. It is not clear that this approach would enhance the public interest, especially given 1) that the method will yield a monopoly provider for the designated area, 2) with apparently no constraint on the price of the service to be offered.