

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

In the Matter of)	
)	
International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act)	GN Docket No. 09-47
)	
A National Broadband Plan for Our Future)	GN Docket No. 09-51
)	
Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable And Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act Of 1996, as Amended by the Broadband Data Improvement Act)	GN Docket No. 09-137
)	

To: The Commission

**COMMENTS OF HUGHES NETWORK SYSTEMS, LLC –
NBP PUBLIC NOTICE #16**

Hughes Network Systems, LLC (“Hughes”)¹ submits these comments in response to the Commission’s Public Notice requesting comment on issues concerning broadband adoption and its impact on development of the National Broadband Plan.² During a prior stage of the National Broadband Plan proceeding, Hughes presented its views on how broadband adoption should be measured and how barriers to broadband adoption can be overcome – concluding in particular that truly universal broadband requires that service be made available in all homes, regardless of

¹ Hughes is the largest satellite Internet access provider in North America, providing satellite broadband connectivity to nearly 500,000 consumer and small business subscribers.

² *Comment Sought On Broadband Adoption*, Public Notice DA 09-2403 (rel. Nov. 10, 2009) (“Public Notice”). Congress directed the Commission to develop the National Broadband Plan through the American Recovery and Reinvestment Act of 2009. *See* American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 at § 6001(k)(2) (2009).

location, and at a cost that encourages (and where necessary subsidizes) adoption of that service.³

Hughes welcomes the opportunity to expand upon these earlier comments.

I. Household Broadband Subscriptions Are The Most Accurate Measure Of Broadband Adoption.

The Public Notice first seeks comment on how to measure broadband adoption, specifically asking if individual or household subscription rates are the best form of measurement.⁴ Hughes believes broadband in the home is the most precise gauge of adoption, and that household subscriptions should be the principal means of evaluating the level of broadband adoption.

A household subscription to a broadband service necessarily qualifies as an adopted service because the user has affirmatively chosen to bring that service into the home on a regular basis. The user/subscriber is able to select – that is, to adopt – the time, level and method of broadband service that best suits his or her needs. No other means of broadband service can match the level of user acceptance that broadband in the home signifies.

Broadband outside the home, even from anchor tenant sources that may permit frequent use, ultimately imposes limits on a user’s choice that cuts against the notion of adoption. For example, when a library closes for the evening or a school shuts down for the weekend, a user dependent on these sources is effectively left with no service to “adopt.”⁵ While broadband access limited by hours of operations may at times be only a mere inconvenience, during natural disasters or other unpredictable emergencies, access becomes critical. A reliable, “always on” form of broadband could mean avoiding catastrophe. Similarly, for the millions of Americans who work second or

³ See Joint Comments of Hughes Network Systems, LLC and WildBlue Communications, Inc., GN Docket No. 09-51, and Joint Reply Comments of Hughes Network Systems, LLC and WildBlue Communications, Inc., GN Docket No. 09-51.

⁴ Public Notice at 2.

⁵ By way of analogy, a household without wireline or wireless telephone service, and which is instead dependent on pay public telephones, is not considered by the Commission to be connected to the telephone network.

third-shift jobs, the anchor locations are often closed when the users are in need of broadband access for everyday applications.

Broadband outside the home is susceptible to other limitations as well. If an anchor tenant broadband source is publicly financed, for example, budget cuts or other cost considerations could mean restrictions upon or outright elimination of broadband service. In addition, and particularly in rural parts of the country where broadband service is most lacking, the distance between a user and the alternative source of broadband may be too great to be of practical value.⁶ Affordable broadband in the home avoids both of these problems – and as explained below is available *now* in the form of satellite-delivered broadband.

Broadband adoption should not be measured by the manner, type or frequency of use.⁷ The degree to which, and means by which, users utilize the broadband-enhanced Internet and other services vary as much as the users themselves. Neither the Commission nor the National Broadband Plan should attempt to draw a line delineating when a sufficient level of broadband use has been reached for that use to be deemed “adopted.” A far more important determiner of adoption is the fact that a user has chosen to bring broadband into the home – regardless of how often that service is accessed.

Hughes believes that broadband alternatives outside the home can serve as an important complement to broadband in the home, and the Commission should support efforts to develop and maintain anchor tenants which serve that purpose. Anchor tenants, however, are not a substitute for the reliability and convenience of broadband in the home, nor do they rise to the level of an adopted

⁶ Web-enabled smart phones may one day provide broadband anywhere the user is, either inside or outside the home. *See* Public Notice at 2. However, due to technological limitations, equipment constraints and the high cost of extended service plans that put service out of the reach of consumers seeking basic connectivity, that day is too far off to guide near-term national broadband planning.

⁷ Public Notice at 2.

service. The National Broadband Plan should unequivocally equate broadband adoption with broadband in the home.

II. Limited Broadband Adoption Imposes A Disproportionate Cost On Rural Areas.

The Public Notice asks what the costs are to individuals, and to society as a whole, that result from limited broadband adoption.⁸ It has been widely reported that the overall costs borne by non-adopters disproportionately impact citizens residing in rural, Tribal and other remote parts of the country.⁹ As the extent of this digital imbalance is documented through this proceeding, it should be recognized that satellite operators are well positioned to mitigate the impact of this imbalance wherever it exists. The universal reach of satellites makes the technology uniquely qualified to provide the full range of educational, health care, public safety, and consumer welfare services available through broadband.

III. Affordability Is The Most Significant Barrier To Broadband Adoption.

The Public Notice next seeks comment on the reasons why some consumers have not adopted broadband despite having access to it.¹⁰ The reasons cited by the Commission as primary barriers – affordability of service, affordability of hardware, insufficient digital and technical literacy levels, unawareness of the relevance and utility of broadband technology, and the inability to use existing technologies due to physical or mental disabilities – all contribute in varying degrees to an unacceptably low adoption rate. While the Commission’s list of barriers is accurate and comprehensive, it does not distinguish one barrier from another in terms of its impact. Before

⁸ Public Notice at 2.

⁹ See, e.g., *Bringing Broadband to Rural America: Report on a Rural Broadband Strategy*, Michael J. Copps, Acting Chairman, Federal Communications Commission (May 22, 2009) at 12.

¹⁰ See Public Notice at 2.

recommending means to address adoption barriers, the Commission should first prioritize the barriers in order of consequence.

In Hughes' view, affordability is the most significant barrier to adoption – particularly in rural America, on Tribal lands, and in other areas facing daunting economic challenges. Indeed, the Commission task force examining gaps in the nation's broadband policies and programs recently acknowledged the significance of household income when measuring the "adoption gap."¹¹ The task force found that 88 percent of American adults with family incomes of \$100,000 or more subscribe to broadband services.¹² That subscription figure drops to 71 percent for adults with incomes between \$40,000 and \$50,000, and plummets to 35 percent for adults with incomes of less than \$20,000.¹³ No other demographic category (including geography, age and race) examined by the task force reflected as wide a disparity between the broadband "haves" and "have nots."

Hughes' own experience with broadband customers confirms the impact that the cost of broadband has on adoption. Hughes' analysis indicates that reducing the cost of broadband equipment and service can have a significant positive effect on adoption rates. Hughes has implemented a monthly payment plan to help lessen upfront expenses.

As Hughes explains below, and as it has advocated in related Commission and other federal agency proceedings, end-user financial incentives will be immediately effective in increasing adoption of satellite broadband services in unserved and underserved households.¹⁴ It is important to emphasize that the adoption gap is not due to availability. Satellite broadband services are

¹¹ See *FCC Identifies Critical Gaps in Path to Future Universal Broadband*, News Release (Nov. 18, 2009).

¹² See *Broadband Gaps Presentation*, FCC Open Meeting (Nov. 18, 2009) at 19 (citing Pew Internet & American Life Project, *Home Broadband Adoption*, June 2009) ("FCC Task Force Presentation").

¹³ *Id.*

¹⁴ See Section IV, *infra*. See also Comments of Hughes and other satellite providers in response to the Rural Utilities Service and National Telecommunications and Information Administration Joint Request for Information, Docket No. 0907141137-91375-05 (filed Nov. 30, 2009) ("Hughes, et al. Joint RFI Comments"), proposing a "Broadband Connectivity Credit" that provides funding for unserved end users.

available today to potential subscribers anywhere in the country. Clearly, it is “affordability” that causes the strikingly low adoption rate among low-income households. Solve affordability, and adoption can and will immediately begin to rise.

IV. End-User Financial Incentives Will Help Overcome The Affordability Barrier To Adoption.

The Public Notice seeks comment on how to overcome broadband adoption barriers.¹⁵ Given the importance that cost has on the ability and willingness to adopt broadband service, Hughes believes the National Broadband Plan should focus considerable attention on providing financial incentives to encourage universal adoption. For example, Hughes recently proposed an innovative approach designed to spur broadband adoption in connection with the second round of the broadband stimulus programs being administered by the National Telecommunications and Information Administration and Rural Utilities Service.¹⁶ The approach would create a category of awards, called the “Broadband Connectivity Credit,” with a goal of reaching actual end users who do not in fact have access to terrestrial broadband service. The Broadband Connectivity Credit program would provide subsidies for incremental infrastructure cost of reaching end users (including customer premises equipment and installation costs) and for a sustainable adoption component covering costs of providing service at a lower price and/or higher quality, and of associated innovative adoption programs.

The program will have at its core bringing affordable broadband directly to consumers, anchor institutions, critical community facilities, small businesses, and governmental/public safety and educational institutions that today are unserved by terrestrial broadband alternatives. The program is based on customer choice, promotes competition among broadband providers and drives

¹⁵ Public Notice at 3-4.

¹⁶ See Hughes, et al. Joint RFI Comments at 6-8 and Attachment A. A copy of the proposal for a Broadband Connectivity Credit is attached hereto as Attachment A.

adoption by defraying upfront equipment and installation costs, in addition to recurring service costs. The program is also technology neutral, applying equally to all providers – satellite, wireless or wireline.

The Broadband Connectivity Credit program could serve as a prototype for other broadband adoption programs for a variety of reasons. First, it efficiently uses limited government funds by subsidizing the extension of broadband service to those end users who actually adopt broadband service. Second, because it is designed as a “demand-based” program, the program avoids the construction of redundant terrestrial networks to serve end users located in pockets of larger areas that are deemed "unserved," "underserved," or "rural," but who actually have access to terrestrial broadband today. Third, it encourages the provision of broadband service to end users who have no access to terrestrial broadband, located in pockets of broader areas that are technically deemed to be “served,” and who otherwise would be left behind.¹⁷

The FCC task force examining broadband gaps identified the overwhelming costs associated with infrastructure build out to rural areas as one of the leading obstacles to broadband adoption.¹⁸ However, focusing on middle-mile projects without last mile connectivity runs the risk of creating the broadband equivalent of “bridges to nowhere.” Without last mile connection cost estimates, one can neither guarantee connections nor estimate the real end-to-end cost of providing a broadband connection. Focusing on those service providers who *only* provide middle mile service would have the unintended and undesirable effect of excluding entirely those service providers who are capable of both last mile and middle mile service – and thus can provide end-to-end service to the target community projects. Moreover, utilizing only the two categories of last mile or middle mile does

¹⁷ In addition to encouraging affordable broadband in the form of government subsidies, Hughes as a company is independently striving to keep broadband costs to a minimum. This effort is best exemplified by the company’s commitment to next generation satellites, whose technological advances and improvements will considerably reduce the costs per data bit sent to end users.

¹⁸ FCC Task Force Presentation at 9 (noting that the estimated annual transit and transport cost per subscriber for fixed broadband in rural areas is 25 times higher than in urban areas).

not accurately account for the systems that combine both elements in order to efficiently reach unserved Americans. For example, a satellite service provider can both provide service to end users (a last mile component) and provide its own backhaul (an element of middle mile projects). Allowing any bias against end users who can be reached most efficiently by end-to-end broadband services such as satellite jeopardizes the goal of truly universal broadband adoption.

In closing, Hughes observes that the experiences of other countries with dispersed rural populations are instructive here. Canada and Australia, for example, include satellite-delivered broadband as an essential component of their respective national broadband plans. The United States, with an even larger number of unserved and underserved citizens than either Canada or Australia, should likewise embrace satellite technology as a means to increase broadband adoption.

V. Conclusion

The success of the National Broadband Plan will be measured by the number of citizens who adopt broadband and make it a critical part of their lives. Satellites make broadband service available today to nearly all Americans, but many of those in rural, unserved or underserved areas who need it most cannot afford service. Increased affordability will mean increased adoption.

For the reasons discussed herein, the Commission's National Broadband Plan should equate broadband adoption with broadband in the home, and strive to make in-home broadband a reality for all by implementing programs and policies that reduce the cost of service to consumers.

Respectfully submitted,

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December 2, 2009

ATTACHMENT A

BROADBAND CONNECTIVITY CREDIT PROPOSAL

**KEY ELEMENTS OF AN END USER-DRIVEN
INFRASTRUCTURE AND ADOPTION CATEGORY FOR UNSERVED
CONSUMERS, ANCHOR INSTITUTIONS, & OTHER ENTITIES**

Introduction and Overview. The second round NOFA should establish a “**Broadband Connectivity Credit**” (“BCC”) category of projects open to a broadband provider – whether satellite, wireless and wireline. The Broadband Satellite Commenters propose that this category have \$500 Million set aside in grants. This amount would be pooled from existing infrastructure and adoption categories, to fund infrastructure and combined infrastructure/sustainable adoption projects to provide broadband service to unserved consumers, as well as to unserved anchor institutions, critical community facilities, and other governmental/public safety, educational, and commercial entities, typically located in rural and remote/low-density areas.

The purpose of this category is to specifically target support for those end users, the literal terrestrial broadband “**have-nots**” that are not currently served by terrestrial broadband alternatives. The infrastructure component of such awards would provide a “**Connectivity Credit**” to cover up to 80% of the eligible infrastructure costs per-end user, including the cost of customer premises equipment (“CPE”), installation and incremental infrastructure required to serve an eligible end user. The sustainable adoption component of such award would provide for a lump sum per-subscriber “**Broadband Adoption Credit**” available for applicant-specified targeted populations and entities that are otherwise eligible for the Connectivity Credit, in order to subsidize up to 80% of a reduction in recurring monthly service fees as well as 80% of the cost of innovative adoption programs aimed at such targeted populations and entities. The program would have an overall per-subscriber cap of \$1,000 for the combined Connectivity and Broadband Adoption Credits, to allow maximum end user participation, to encourage use of the most efficient technologies to serve these consumers and entities, and to prevent the fund from being depleted through a limited number of high cost connections.

Eligible Applicants, Covered Infrastructure, and Application Process. Any broadband satellite, wireless or wireline provider can apply to fund a project under this program in the second round NOFA. Providers can apply either individually or in joint applications that include multiple entities in a sector (including through third party entities).

Under the infrastructure component, applicants would specify the eligible infrastructure and installation costs to be funded and the proposed per-subscriber funding amount, which could not exceed 80% of the applicable costs. The applicants will also provide information on: (1) financial viability and other track record qualifications; and (2) the extent to which the provider will utilize the credit to improve affordability and/or to improve current quality of service in terms of speed and/or provisioning, specifying appropriate affordability and quality of service metrics.

Funding would be available for end user equipment and installation as well as for incremental infrastructure necessary to serve eligible end users. Applications that include a

sustainable adoption component would additionally specify: the targeted populations and entities to be served; any associated innovative adoption programs; the per-subscriber lump sum subsidy sought; how that subsidy would be allocated between a reduction in monthly subscriber charges and the cost of any associated adoption program; and a showing that the per subscriber subsidy is no more than 80% of the reduction in subscriber charges to be funded plus the cost of the adoption program.

The aggregate amount funded per eligible subscriber under both the infrastructure and adoption components would not exceed \$1,000. Applicants would also have the option of proposing a third party administrator to handle payment processing and administration.

Applicants would not be required to specify in their applications geographic areas to be served under the program. In particular, since the program will be customer-driven (i.e., demand-based) and designed to reach those end users who *in fact* have no access to terrestrial broadband service, there will be no requirement for applicants to designate in their applications areas to be served as unserved or underserved, provide census block data, or make use of a mapping tool.

After evaluating all applications under the program, the agencies would establish for each application granted, the eligible infrastructure costs and the per-subscriber Connectivity Credit to be funded under the program, which would not exceed 80% of actual cost (to account for matching funds from the applicant). Where there is an adoption component, the agencies would additionally determine the per subscriber subsidy for service charges and associated adoption programs, which would not exceed 80% of applicable service charge reduction and applicable adoption program cost (again, to account for matching funds from the applicant). Multiple applications from a variety of service providers could be granted for the overall Broadband Connectivity Credit category.

A \$500 Million pool would be created from which each eligible Grantee would draw the approved funds per end user. Grantees would then submit end user self certifications to draw down funds for Connectivity Credits, and, if applicable, Broadband Adoption Credits. Credits could be cleared through a third party administrator designated by the applicant, which would interface with the agencies and service providers and provide validation. Funds would be paid on a first-come, first-served basis, until the fixed amount in the pool was exhausted.

End User Eligibility. End user eligibility for the program will be established by an end user self-certification process. An eligible end user will be defined as follows:

Any consumer or other end user entity that self certifies that he/she or the entity is not currently able to receive broadband service from a wireline or wireless broadband provider.

Additionally, end user eligibility for participation in the Broadband Adoption component will be established based on target population and entity criteria specified in a particular application and the award made by the agencies.