Before the
NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION
and the
RURAL UTILITIES SERVICE

In the Matter of American Recovery and Reinvestment Act of 2009 Broadband Initiatives	Docket No. 090309298–9299–01

COMMENTS OF GENERAL COMMUNICATION, INC.

Tina Pidgeon
Vice-President –
Federal Regulatory Affairs
GENERAL COMMUNICATION, INC.
1130 17th Street, N.W., Suite 312
Washington, D.C. 20036
(202) 457-8812

John T. Nakahata
Christopher P. Nierman
HARRIS, WILTSHIRE & GRANNIS LLP
1200 Eighteenth Street, N.W.
Washington, D.C. 20036
(202) 730-1300

Counsel for General Communication, Inc.

April 13, 2009

EXECUTIVE SUMMARY

As the leading provider of broadband services to government, commercial, and residential users in Alaska, General Communication, Inc. ("GCI") has seen firsthand the benefits that advanced broadband services bring to even the most remote "bush" villages. GCI urges the National Telecommunications and Information Administration ("NTIA") and the Rural Utilities Service ("RUS") to implement the American Recovery and Reinvestment Act of 2009 ("Recovery Act") funding loan programs to nurture innovative, but achievable and sustainable, rural broadband projects that leverage existing broadband infrastructure and services that private business is unable to initiate because of market conditions and/or the thin economy and remoteness of the affected rural area.

This goal requires NTIA and RUS to strike an important balance. On the one hand, criteria should not be so rigid and demanding as to prevent innovative projects from receiving necessary funding. On the other hand, NTIA and RUS must assess whether a proposed project presents a realistic, implementable vision; whether its sponsor has the engineering and operational capabilities, past performance, and business plan to see the project through; and whether the requested funds deliver a tangible broadband product to unserved and underserved areas within the required time window. With this in mind, GCI urges NTIA and RUS to establish flexible, inclusive criteria that value sustainability, substantiated innovation, and full-service deliverability.

Of particular importance, NTIA and RUS must recognize that the lack of cost-effective, terrestrial middle-mile transport is a major impediment to extending widespread broadband service to rural areas. As the demand for broadband bandwidth grows, so does the consensus that it is not possible to deliver mass market broadband

over the long term via satellite transport, which is frequently used in remote locations. Thus, the challenge for these remote, rural areas is to replace satellite middle-mile transport with viable terrestrial middle-mile delivery, connecting both communities within a region to each other and regions to the backbone. Accordingly, NTIA and RUS must establish grant criteria flexible enough to include such projects that are necessary to bring widespread, end-to-end broadband service to rural consumers.

GCI specifically addresses several of the matters that NTIA and RUS will consider in establishing criteria, including:

Eligible Recipients: NTIA and RUS should establish broad, inclusive eligibility guidelines that assess proposals on the merit of each project and the worthiness of each applicant, which should include the private sector. (Response to NTIA Matter 3)

Establishing Selection Criteria: Sustainability is critical and must be concretely demonstrated. NTIA and RUS must assess, first, the *ability of the applicant* to sustain the project, both to completion and thereafter; second, the *financial viability* of the project once Recovery Act funding is exhausted; and, third, the *potential for growth*. Moreover, NTIA should conduct its assessments cognizant of differences among product markets which themselves are characterized by different technological service characteristics. (Response to NTIA Matter 4 and RUS Matter 4)

Timely Completion of Proposals: Project completion benchmarks and deadlines should account for unique environments, such as extreme northern climates where construction can only occur during limited construction seasons, and exceptionally remote or difficult to reach locations. (Response to NTIA Matter 10)

Defining "unserved" and "underserved": The distinction between "served" areas and those that are "unserved" or "underserved" should not be based on a single set of criteria that applies to all areas and markets, but rather should be defined with respect to the different last-mile markets (*e.g.*, enterprise broadband, mass market fixed broadband, or mobile broadband), as well as the distinction between middle-mile and backbone infrastructure and last-mile networks. (Response to NTIA Matter 13(a))

Defining "broadband service": Threshold transmission speeds should be identified separately for each product market and should be flexible so as not to penalize the most challenging environments, some of which can be reached only via technology with inherently lower transmission bandwidth. (Response to NTIA Matter 13(b) and RUS Matter 3)

TABLE OF CONTENTS

INTRODUCTION

As the leading provider of broadband services to government, commercial, and residential users in Alaska, General Communication, Inc. ("GCI") has seen firsthand the benefits that advanced broadband services bring to even the most remote "bush" villages. GCI urges the National Telecommunications and Information Administration ("NTIA") and the Rural Utilities Service ("RUS") to implement the American Recovery and Reinvestment Act of 2009 ("Recovery Act") grant and loan programs to nurture innovative, but achievable and sustainable, rural broadband projects that leverage existing broadband infrastructure and services that private business is currently unable to initiate because of financial market conditions and/or the thin economy and remoteness of the affected rural area.

This goal requires NTIA and RUS to strike an important balance. On the one hand, grant and loan criteria should not be so rigid and demanding as to prevent innovative projects from receiving necessary funding. On the other hand, NTIA and RUS must review each application with a critical eye to assess whether a proposed project presents a realistic, implementable vision; whether its sponsor has the engineering and operational capabilities, past performance, and business plan to see the project through, and whether the requested funds deliver a tangible broadband product to unserved and underserved areas within the required time window. With this in mind, GCI urges NTIA and RUS to establish criteria that value:

Sustainability: The Broadband Technology Opportunities Program ("BTOP") and RUS grants and loans should be awarded to projects that are sustainable without the need to create additional public funding programs beyond 2010. Once the funds are spent, private investment, consumer demand, and existing support mechanisms need to keep these projects operational.

Substantiated Innovation: In some cases, barriers to broadband deployment may be the result of technology limitations. A federal form of "venture" capital may help overcome such limitations, but applicants must be required to substantiate technologically innovative proposals. Solid engineering and solid business plans need to be implemented by teams with proven, first-hand experience in constructing and operating advanced technology projects. The risk of funding unsuccessful "fliers" is otherwise too great.

Full-service deliverable: Projects that in themselves cannot deliver broadband service to strategic community institutions, business, and residential end users will not meet either NTIA or RUS statutory requirements.

In developing program guidelines, NTIA and RUS should also keep an eye towards:

Flexibility: Serving communities having a broad range of topography, climate, and population density, American broadband networks are not and cannot be homogeneous. Accordingly, NTIA and RUS criteria should embrace innovative solutions, be flexible, and account for substantiated differences among markets, climates, construction seasons, transmission speed requirements, permitting environments, and timing issues.

Inclusivity: NTIA and RUS should not exclude private industry from this process and cannot limit the type of technology that receives Recovery Act funds. Instead, NTIA and RUS should accept applications from all entities and award grants and loans on a case-by-case merit basis.

I. GCI's Existing Broadband Successes Demonstrate the Transformative Power of Rural Broadband and the Need to Ensure Widespread Deployment

GCI already provides dedicated broadband service to individual health care and education institutions in many rural communities in Alaska. The benefits are undeniable. GCI ConnectMD, for instance, is a dedicated medical network, over which clinics and hospitals in rural and urban areas can securely and reliably exchange critical health information. Through established broadband connections, a health practitioner at a small clinic in rural Kotzebue, Alaska is able to perform emergency, life-saving surgery on a

woman with the aid and guidance of an expert surgeon in Anchorage, who participates through a videoconference.[1] Before broadband, the alternative – if any – would have been a long, costly plane ride to Anchorage. Patients in rural communities can also use broadband services to get basic medical treatment that many of us take for granted, such as access to psychiatric services and the ability to receive post-operative, out-patient care in our hometown, even for a surgery performed hundreds of miles away.

GCI's rural broadband deployment to schools has also provided educational opportunities, allowing students in rural areas to access resources and experts in ways that were previously unavailable. Through the Alaska Distance Learning Partnership, for instance, rural students learn algebra even when there is no qualified instructor locally. Students can videoconference with professionals throughout Alaska who elaborate on their careers and inspire students to pursue a diverse range of career paths. Similarly, rural students are able to participate in videoconferencing with a variety of authors, meet with Alaska's delegation in Washington, D.C., and attend virtual field trips. These mark just the beginning of the opportunities that widespread rural broadband will provide, if available to all businesses and residents of the community.

II. The Middle-Mile Problem

To provide broadband services to most of these rural institutions, GCI relies on dedicated satellite links for middle-mile transport, which is costly, has limited throughput capacity and, thus, is not ideal for widespread, intensely-used broadband services for the mass market. Current Internet growth projections indicate that satellite technology, while

[1] *Telehealth in the Tundra: Remote Northwest Alaskan Villages Encounter Faster Access to More Sophisticated Medical Care*, Health Management Technology, March 2004, at 2.

certainly a useful component of broadband expansion, will not alone be able to deliver urban-quality, universal broadband Internet access and other state of the art broadband capabilities to Alaska's rural communities. Three major impediments have led to the recognition that an alternative to satellite-delivered broadband transport must be developed. First, satellite capacity for Alaska is limited and cannot keep pace with exponentially increasing demand for broadband. Second, even with the availability of additional capacity, the resulting service will be increasingly unaffordable as demand for bandwidth increases. The cost of leasing a single satellite transponder can run into the millions of dollars on an annual basis, while, due to increasing demand by each customer, able to service fewer and fewer customers at the same time. Finally, many applications are time sensitive and to the extent that they can be provided over satellite, inherent latency issues can only be addressed with a high-capacity, dedicated connection to minimize the service impact due to high latency, an impossible solution for the mass market given capacity and cost constraints.[2] Thus, the challenge for these rural areas is to replace satellite middle-mile transport with viable terrestrial middle-mile delivery, connecting both communities within a region to each other and regions to the backbone.

Without cost-effective middle-mile transport – where technically possible – the benefits that GCI has delivered through its current rural broadband service offerings to institutional end users[3] will not become available to all of rural Alaska. As the demand for broadband bandwidth grows, so does the consensus that it is not possible to deliver mass market broadband over the long term via satellite transport. The Regulatory

---

[2] These challenges are unique to the delivery of broadband services. Satellite continues to be an effective transport medium for voice services.

[3] Such end users typically receive support from the E-rate or Rural Health Care programs of the Universal Service Fund to purchase the service.

Commission of Alaska ("RCA") asserted that reliance on satellite for middle-mile transport "is *the major impediment* in providing next generation broadband speeds throughout the state, and particularly in sparsely populated areas," and additionally that "significant federal funding may enable the development of further middle mile infrastructure (fiber, microwave) that will allow Alaska to reduce its reliance on satellite transport throughout its rural areas."[4] Sacred Wind Communications, a rural local exchange carrier serving mostly Navajo lands in New Mexico, likewise noted that, on Navajo lands, "[u]nder today's costs of satellite access, it would be necessary to limit the amount of access to community facilities and to individual homes," but "[w]ith fixed wireless systems, broadband capacities for commercial customers or community facilities" could be much higher and still affordable.[5]

The lack of middle-mile transport is now widely recognized as a major obstacle to extending widespread broadband service to rural areas. Verizon, for instance, has asserted that in some rural areas "the cost of the additional transport mileage is high enough to impinge on a rural broadband provider's ability to offer services in those areas."[6] Similarly, the New America Foundation stated that:

> A great deal of the discussion on improving rural broadband access in the U.S. has focused on last-mile issues, connecting the residences and businesses in a local community. While this remains a difficult challenge, another key obstacle to universal high-speed broadband access is the

---

4 Comments of the Regulatory Commission of Alaska at 5-6, GN Docket No. 09-29 (filed Mar. 25, 2009) (emphasis added) ("RCA Comments").

5 Comments of Sacred Wind Communications, Inc. at 4, GN Docket No. 09-29 (filed Apr. 2, 2009).

6 Comments of Verizon and Verizon Wireless at 11, GN Docket No. 09-29 (filed Mar. 25, 2009). *See also* Comments of the Consumer Federation of America and Consumers Union at 4, GN Docket No. 09-29 (filed Mar. 25, 2009) ("Middle mile is a necessary component of solving the problem of un- and under-served.").

> connection of those last-mile networks to the Internet backbone. No community or network is an island; and increasingly access to the high-speed middle-mile links that carry Internet traffic to the backbone, and the escalating costs associated with transporting traffic among networks, have become fundamental barriers to spreading connectivity, promoting broadband competition, improving speeds and lowering prices. [7]

One potential solution to the middle-mile backhaul problem is to employ a mix of terrestrial microwave and long-haul fiber technology. GCI's subsidiary, Unicom Inc., operates DeltaNet, a long-haul broadband microwave network ringing the Yukon-Kuskokwim Delta, a region of approximately 30,000 square miles in western Alaska, connecting over 30 rural communities, and with populations ranging from 150 to 5,600. DeltaNet was financed primarily by three loans from the RUS Distance Learning and Telemedicine Program. By this summer, DeltaNet, which has already commenced operations, where completed, will link more than 40 villages to Bethel, the region's hub.

The deployment of broadband microwave technology in the Delta and other regions can reduce bush Alaska's reliance on satellite for backhaul over time, providing a regional broadband service and a critical piece of the middle-mile solution. Regional microwave networks can be connected, where possible, to each other and the national backbone by fiber facilities.

GCI emphasizes, however, that deploying fiber north of the Bering Straits is a highly challenging task, regardless of how much funding is available. There is no established technology solution yet for deploying submarine fiber under shallow-sea Arctic ice, where ice packs can deeply scour the seabed (and crush fiber cable) in a way not encountered in more temperate climates. Without a reliable solution, even a ringed

---

[7] Comments of The New America Foundation at 5, GN Docket No. 09-29 (filed Mar. 25, 2009).

fiber optic network might suffer multiple breaks that could not be repaired for up to 10 months while a cable repair ship waits to enter the Chukchi or Beaufort Sea. All this is to say that NTIA and RUS should focus their resources on realistically achievable projects and ensure that their review processes and selection criteria are sufficiently stringent to weed out those proposals that promise much more than can be delivered in the near term.

To that end, GCI envisions expansion of terrestrial microwave and fiber technology throughout rural Alaska over time, under a deployment schedule that is realistically paced with what technology can deliver. As to those portions that are in reach, GCI will still need support to initiate such an aggressive project quickly. DLT loan funding was necessary to initiate the prototype in the Yukon-Kuskokwim Delta, the most populated rural region. While that project is a success, it is clear that a similar undertaking in other regions, plus connecting the region by fiber to the backbone, will require further support to make this phase of the project economically viable. It is exactly this type of project that Recovery Act funds can jumpstart and that will provide remote communities with the all the benefits of rural broadband.

III. Matters To Be Considered

Keeping in mind the overarching concerns of sustainability, substantiated innovation, full-service deliverables, flexibility, and inclusivity, GCI below addresses several of the matters about which NTIA and RUS have requested information and comment.

A. NTIA

3. *Eligible Grant Recipients:* The Recovery Act establishes entities that are eligible for a grant under the program. The Recovery Act requires NTIA to determine by rule whether it is in the public interest that entities other than those listed in Section 6001(e)(1)(A) and (B) should be eligible for grant awards. What standard should NTIA apply to determine whether it is in the public interest that entities other than those described in Section 6001(e)(1)(A) and (B) should be eligible for grant awards?

NTIA should establish broad, inclusive eligibility guidelines, with disciplined standards to assess proposals. The merit of each project and applicant, not the classification of the entity or type of project, should determine the fund recipients. NTIA should not limit grant awards to only state and local governments and non-profit entities listed in Section 6001(e)(1)(A) and (B) of the Recovery Act. Preventing grants and loans from going directly to private industry will only delay the effect of the stimulus funding. Most government and nonprofit entities have neither the experience nor the desire to build broadband networks in rural communities, but instead will likely turn to private sector participants to perform actual work, thus unnecessarily erecting an additional lock in the funding canal. Private industry has and will continue to serve the public interest through a myriad of projects designed to expand broadband. GCI's rural expansion projects noted above certainly provide examples, but additional federal funds will allow GCI and others to further extend and expand broadband offerings to the rural mass market, which otherwise might have to wait years, if ever, to receive such service if supported solely by private investment. Additionally, NTIA and RUS should not limit the type of carrier or provider that is eligible to apply for and receive grants. Certificated carriers, franchised cable operators, and interconnected VoIP providers should all be eligible for grant awards.

4. *Establishing Selection Criteria for Grant Awards:* The Recovery Act establishes several considerations for awarding grants under the BTOP. In addition to these considerations, NTIA may consider other priorities in selecting competitive grants.

- **a. What factors should NTIA consider in establishing selection criteria for grant awards? How can NTIA determine that a Federal funding need exists and that private investment is not displaced? How should the long-term feasibility of the investment be judged?**
- **b. What should the weighting of these criteria be in determining consideration for grant and loan awards?**
- **c. How should the BTOP prioritize proposals that serve underserved or unserved areas? Should the BTOP consider USDA broadband grant awards and loans in establishing these priorities?**
- **d. Should priority be given to proposals that leverage other Recovery Act projects?**
- **e. Should priority be given to proposals that address several purposes, serve several of the populations identified in the Recovery Act, or provide service to different types of areas?**
- **f. What factors should be given priority in determining whether proposals will encourage sustainable adoption of broadband service?**
- **g. Should the fact that different technologies can provide different service characteristics, such as speed and use of dedicated or shared links, be considered given the statute's direction that, to the extent practicable, the purposes of the statute should be promoted in a technologically neutral fashion?**
- **h. What role, if any, should retail price play in the grant program?**

Sustainability is critical and can be demonstrated and assessed in concrete ways. First, NTIA must assess the ***ability of the applicant*** to sustain the project, both to completion and thereafter. Applicants, whether from the public or private sector, must demonstrate the necessary expertise and operational capacity to execute the project. Particularly with respect to infrastructure proposals, applicants should be required to demonstrate a proven, first-hand track record of planning, engineering, constructing, and operating networks. The financial fitness of the applicant, its willingness to provide end-to-end broadband service, and its ability to complete the project – as substantiated by prior performance – must all be considered. Of course, assessing the bona fides of an applicant also opens the door for applicants with a history of innovation. Creative

solutions have value only if NTIA can be assured that they will be implemented once grants are awarded.

Second, NTIA must assess the ***financial viability*** of the project once Recovery Act funding is exhausted. Sustainability evaluations should consider not only pro forma financial statements, but also the private investment supporting the project and all revenue streams that will support the provisioned service (including universal service and other available support),[8] and should not in this economic climate rely heavily on projected but uncommitted private investment.

Third, NTIA must assess the ***potential for growth*** from the initial projection. Accordingly, NTIA should give higher priority to projects that can be leveraged to achieve broader benefits. Connecting communities through high capacity facilities that can be used by multiple sets of users, including strategic community institutions, small business, and residential consumers, can enable broader economic development, even without additional stimulus funding. Thus, for instance, a Recovery Act-funded terrestrial middle-mile transport project to a rural regional center should demonstrate that it will connect to smaller, last-mile terrestrial microwave, fiber and wireless networks.

NTIA should conduct its assessments cognizant of differences among product markets which themselves are characterized by different technological service characteristics. There are at least three distinct general product last-mile markets, each with different service needs and characteristics: enterprise broadband, mass market (*i.e.*, residential and small business) fixed broadband, and mobile broadband. Fixed broadband

[8] It is important to note that universal service provides funding to community anchor tenants like schools and rural health care providers for the purchase of services, and it also provides ongoing operations and maintenance support to high cost infrastructure.

does not bring the same benefits as mobile broadband, and vice versa. There may also be specialized product markets, such as with respect to public safety. In each product market, the program must be technologically neutral.

Just as markets must be defined, so must the pool of competitive applications. GCI proposes that applications be grouped by geographic region or state, with overlapping or similar purpose applications first assessed individually then comparatively with competing applications. As part of the comparative assessments, infrastructure applicants must discuss fully the status of networks throughout the project area.

Finally, while grant criteria not should specify retail prices, NTIA should give weight to applications that demonstrate an ability to achieve urban-level rates or other competitive rates for a comparable market.

10. *Timely Completion of Proposals:* The Recovery Act states that NTIA shall establish the BTOP as expeditiously as practicable, ensure that all awards are made before the end of fiscal year 2010, and seek assurances from grantees that projects supported by the programs will be substantially completed within two (2) years following an award. The Recovery Act also requires that grant recipients report quarterly on the recipient's use of grant funds and the grant recipient's progress in fulfilling the objectives of the grant proposal. The Recovery Act permits NTIA to de-obligate awards to grant recipients that demonstrate an insufficient level of performance, or wasteful or fraudulent spending (as defined by NTIA in advance), and award these funds to new or existing applicants.

- **a. What is the most efficient, effective, and fair way to carry out the requirement that the BTOP be established expeditiously and that awards be made before the end of fiscal year 2010?**
- **b. What elements should be included in the application to ensure the projects can be completed within two (2) years (e.g., timelines, milestones, letters of agreement with partners)?**

Project completion benchmarks and deadlines should account for unique environments, such as extreme northern climates where deployment can only occur during limited construction seasons, and exceptionally remote or difficult to reach locations. Thus, for instance, applicants proposing projects in the mostly flat and

relatively temperate rural heartland should not be favored over applications proposing projects in more extreme locations simply because they may be able to forecast shorter interim benchmarks. Failure to account for differences in timing will penalize some of the most underserved and most challenging regions of the country. Flexibility to permit needed deployments in unique environments must be accompanied, however, by stringent criteria to ensure that projects are sustainable and buildable. NTIA should ensure that projects in harsh environments are being shepherded by reliable, experienced entities and that a claim of harsh or unique environments is not used to cover the true prospect of success for risky, unproven ventures.

12. ***Coordination with USDA's Broadband Grant Program:*** **The Recovery Act directs USDA's Rural Development Office to distribute $2.5 billion dollars in loans, loan guarantees, and grants for broadband deployment. The stated focus of the USDA's program is economic development in rural areas. NTIA has broad authority in its grant program to award grants throughout the United States. Although the two programs have different statutory structures, the programs have many similar purposes, namely the promotion of economic development based on deployment of broadband service and technologies.**

- **a. What specific programmatic elements should both agencies adopt to ensure that grant funds are utilized in the most effective and efficient manner?**
- **b. In cases where proposals encompass both rural and non-rural areas, what programmatic elements should the agencies establish to ensure that worthy projects are funded by one or both programs in the most cost effective manner without unjustly enriching the applicant(s)?**

The statutory condition "[t]hat no area of a project funded with amounts made available [from RUS] may receive funding to provide broadband service under the Broadband Technology Opportunities Program,"[9] should not prevent applicants from applying for and receiving grants and/or loans from both programs where applications are complementary and not duplicative. For instance, an applicant should be able to receive

[9] American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, div. A tit. 1, 123 Stat. 115 (2009).

a BTOP grant to construct microwave towers for middle-mile transport as well as an RUS loan for connecting those facilities to wireless last-mile rural networks.

13. ***Definitions:***

a. For the purposes of BTOP, how should NTIA define the terms "unserved area" and "underserved area"?

The distinction between "served" areas and "unserved" or "underserved" areas should not be based on a single set of criteria that applies to all areas and markets. A one one-size-fits-all approach could leave some of the most remote areas without Recovery Act assistance that they need. The terms must, therefore, be defined with respect to the particular product market being served (*e.g.*, enterprise broadband, mass market fixed broadband, or mobile broadband). The presence of "broadband" in one product market does not mean that the area is "served" for all markets. Also, this approach would allow an area to select the technology platform and mix of characteristics (*e.g.*, fixed versus mobile) that best suits the needs of the community. Similarly, broadband service to one or two users does not indicate that an area or market is "served." A school and/or rural health care provider, for instance, may have broadband service via dedicated satellite link, but that is not a service solution for the broader market – either from the perspective of affordability or capacity.

In addition, NTIA should consider whether areas or regions are "unserved" or "underserved" with respect to broadband backbone infrastructure. An area should be considered "unserved" or "underserved" if it lacks sufficient backhaul capacity to support adequate last-mile broadband services. As the RCA has already suggested, it may be appropriate "to distinguish between rural communities characterized by high last mile

costs versus rural communities with high middle mile costs."[10] Thus a community could have a wireless mobile last-mile network in place, but insufficient middle-mile transport capacity to allow full utilization of that network. Such a community should not be treated as "served."

Finally, the term "served" should only consider services that meet all basic legal requirements, such as CALEA capabilities. If a broadband service is not capable of meeting CALEA requirements within a reasonable time, it should not be included in the evaluation of whether an area is "unserved" or "underserved."

b. How should the BTOP define "broadband service"?

(1) Should the BTOP establish threshold transmission speeds for purposes of analyzing whether an area is "served" or "underserved" and prioritizing grant award? Should thresholds be rigid or flexible?

(2) Should the BTOP establish different threshold speeds for different technology platforms?

(3) What should any such threshold speeds be, and how should they be evaluated (e.g. advertised speed, average speed, typical speed, maximum speed)?

(4) Should the threshold speeds be symmetrical or asymmetrical?

(5) How should the BTOP consider the impacts of the use of shared facilities by service providers and of network congestion?

Threshold transmission speed requirements may be necessary, but should be identified separately for each product market. The necessary transmission speed for a strategic community institution (*e.g.*, hospital, school, government, or large employer) may be very large, but is only for a single site. Fixed mass market broadband service may require lower bandwidth than enterprise service, but will be used by a larger number of users at fixed sites. Mobile broadband service may not require transmission speeds as high as fixed broadband, but will need to be highly flexible. So, again, flexibility and differentiation in these definitions are important.

---

[10] RCA Comments at 6.

Threshold speed requirements also should be flexible so as not to penalize the most challenging environments, some of which can be reached only via satellite. A community that must reach the national backbone by satellite link will have lower throughput than one that can use fiber or microwave. But to set threshold speeds that would exclude participation by those satellite-fed remote communities would be counterproductive.

Speeds should be measured in ways that are compatible with the way the thresholds are set. It does no good for speeds to be unrealistic, unachievable, or immeasurable.

Finally, there is no need for threshold speed requirements to be symmetrical. Most use is still downstream rather than upstream, thus mandating symmetrical capacity would be wasteful.

e. What role, if any, should retail price play in these definitions?

Retail price should play no role in these definitions. Retail price may affect sustainability, as grantees will have to ensure that they can achieve sufficient adoption to sustain the project once Recovery Act funding has been expended, but NTIA should not tie the definitions of "unserved" or "broadband service" to any particular retail price point.

B. RUS

3. How should RUS evaluate whether a particular level of broadband access and service is needed to facilitate economic development? Seventy-five percent of an area to be funded under the Recovery Act must be in an area that USDA determines lacks sufficient "high speed broadband service to facilitate rural economic development." RUS is seeking suggestions as to the factors it should use to make such determinations.

- **a. How should RUS define "rural economic development?" What factors should be considered, in terms of job growth, sustainability, and other economic and socio-economic benefits?**
- **b. What speeds are needed to facilitate "economic development?" What does "high speed broadband service" mean?**
- **c. What factors should be considered, when creating economic development incentives, in constructing facilities in areas outside the seventy-five percent area that is rural (i.e., within an area that is less than 25 percent rural)?**

In a nutshell, economic development will arise from the ability of rural end users to access advanced broadband services at levels near or equal to urban areas. The ability to connect with the rest of the world in or near real-time allows people to buy, sell, learn, network, and collaborate in ways that most of the nation takes for granted.

Thus, RUS should emphasize high-capacity connectivity between communities in tandem with regional networking of strategic institutions (*e.g.*, hospitals and other health care facilities, schools, libraries), which will provide immediate benefits such as those realized through GCI's efforts in rural Alaska. Community and regional connectivity through terrestrial middle-mile transport will also promote last-mile connectivity by providing sufficient capacity for widespread mass market broadband services.

But, RUS should not stifle such development by tying economic development to a single minimum transmission speed. As mentioned above, different product markets have different needs for broadband speeds. Strategic local enterprises will need high bandwidth capacity. Mass market customers will typically require lower transmissions

speeds. And some areas will be best served most flexibly by mobile, rather than fixed, broadband, even if that produces lower bandwidths. Accordingly, RUS should be flexible in defining these terms.

Moreover, RUS should keep in mind that high last-mile bandwidth is all but meaningless without adequate middle-mile transport capacity and speeds from communities to regional centers and, ultimately, from regional centers to the Internet backbone. A stranded last-mile network in a rural community may help intra-community communication, but will not help the community members gain the economic advantage of connecting with the rest of the world. Likewise, a middle-mile project that fails to connect to communities via regional networks should not be deemed to provide broadband service, does not provide a full-service deliverable, and thus, is not a qualifying project

4. In further evaluating projects, RUS must consider the priorities listed below. What value should be assigned to those factors in selecting applications? What additional priorities should be considered by RUS? Priorities have been assigned to projects that will: (1) Give end-users a choice of Internet service providers, (2) serve the highest proportion of rural residents that lack access to broadband service, (3) be projects of current and former RUS borrowers, and (4) be fully funded and ready to start once they receive funding under the Recovery Act.

In evaluating projects, RUS should emphasize success of comparable programs. As it may be difficult to differentiate between which of the sure-to-be voluminous proposals will actually produce sustainable rural broadband service, RUS should look for projects that are similar to previously successful projects. In addition, RUS should look at the past successes of the applicant. That is not to say that newly-emerging entities will not propose fund-worthy projects, but past accomplishment can of course be indicative of

future success, and a history of innovation should be given higher priority than an unproven concept.

In addition, RUS should be mindful of the potential tension between the mandate to fund projects that would not have been undertaken without Recovery Act funds and the desire to have work begin immediately upon receipt of funds. Thus, RUS must make a reasonable assessment of what it means to be "ready to start." If funding kick-starts a project – and, indeed, is necessary for that project to launch – then RUS should not overweigh the immediacy of starting, lest it fund projects that were so far along the pipeline that they would have been executed without Recovery Act funds.

GCI also incorporates by reference its response to NTIA's fourth matter to be considered.[11] Though the matters are not identical, they both address issues of application evaluation. Like NTIA, and to ensure the stability of the loan program, RUS must assess the *ability of the applicant* to sustain the project, both to completion and thereafter; the *financial viability* of the project once Recovery Act funding is exhausted; and the *potential for growth*.

Respectfully submitted,

/s/

John T. Nakahata
Christopher P. Nierman
HARRIS, WILTSHIRE & GRANNIS LLP
1200 Eighteenth Street, N.W.
Washington, D.C. 20036
(202) 730-1300

Counsel for General Communication, Inc.

Tina Pidgeon
Vice-President –
Federal Regulatory Affairs
GENERAL COMMUNICATION, INC.
1130 17th Street, N.W., Suite 312
Washington, D.C. 20036
(202) 457-8812

April 13, 2009

[11] *See supra* at 9-11.