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

In the Matter of	)	
	)	
Inquiry Concerning the Deployment of	)	
Advanced Telecommunications	)	
Capability to All Americans in a Reasonable	)	GN Docket No. 04-54
and Timely Fashion, and Possible Steps	)	
to Accelerate Such Deployment	)	
Pursuant to Section 706 of the	)	
Telecommunications Act of 1996	)	

COMMENTS OF GENERAL COMMUNICATION, INC.

Tina M. Pidgeon
Lisa R.Youngers
GENERAL COMMUNICATION, INC.
1130 17th Street, N.W., Suite 410
Washington, D.C. 20036
(202) 457-8814
(202) 457-8816 FAX

May 10, 2004

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General Communication, Inc. ("GCI"), by its undersigned counsel, hereby submits these comments in response to the Notice of Inquiry ("Notice" or "NOI") in the above captioned-proceeding released on March 17, 2004 by the Federal Communications Commission ("FCC" or "Commission"), in which the FCC examines whether broadband and other advanced services are being deployed to the nation's consumers in a reasonable and timely manner.

I. Introduction and Summary

GCI is a facilities-based telecommunications and cable services provider bringing local and long distance voice, video, and data services to over 220 communities in Alaska through a combination of its fiber optic transmission facilities, cable system, metropolitan area networks, undersea cable, and satellite transmission facilities. Deployment of advanced services is beneficial and is maximized when barriers to competitive entry are not raised, and carriers are allowed to enter the market freely and provide those services. As is demonstrated by the delivery of advanced telecommunications capabilities throughout Alaska, these services have been most widely innovated and deployed where competitive entry has been allowed. By the

same token, deployment of advanced services has languished where incumbents have been protected from competition.

Moreover, as GCI's experience demonstrates, competition itself is responsible for increased penetration levels of consumers reached by advanced services; innovation in delivery mechanisms, broadband applications, and tiers of services; and competitive pricing. To date, carrier subsidies have not been needed to bring advanced service technologies to the people of Alaska. If the FCC were to consider such subsidies to spur adoption in rural communities or deployment to unserved or underserved communities, the Schools and Libraries and Rural Health Care programs should serve as a guide as to how such a program should be modeled.

II. Delivery of Advanced Services can be Maximized When Multiple Deployment Options are Available.

Given the unique geographic nature of Alaska, carriers have had to rely on a wide-range of technologies to bring voice and data services to consumers throughout the state.[1] As such, GCI has used the competitive entry tools of the Telecommunications Act of 1996 Act ("1996 Act") to introduce consumer choice across a broad range of services.

GCI is a leader in the provision of advanced services as an Internet service provider ("ISP") and in the deployment of broadband facilities throughout Alaska. GCI began providing retail Internet service in 1998 and is now Alaska's largest ISP, providing both dial-up and broadband services. In the more urban areas of Alaska -- Anchorage, Fairbanks, and Juneau -- depending on the consumer's geographic location and product needs, broadband services are provided one of several ways: over GCI's cable platform, over GCI's fiber loop, over digital

[1] For instance, in local exchange voice services, GCI uses a mix of full-facilities entry, a combination of its own facilities and ILEC UNE-loops, and wholesale services, to provide services to customers across diverse areas in Alaska. Through this range of delivery technologies, GCI has seen growth in subscribership to the services it provides. In the three largest cities in Alaska alone, GCI now serves approximately 46% of residential and business lines in Anchorage, and approximately 23% in both Fairbanks and Juneau.

subscriber line or DSL-qualified UNE loops in combination with GCI's electronics and fiber transport, over leased digital data loops ("LDDS") via the ILEC's facilities, or over fixed wireless PCS.

Additionally, and in response to the FCC's inquiry regarding such services,[2] GCI has also deployed high-speed Internet access to the more rural areas of Alaska -- Alaskan bush communities -- using unlicensed wireless technology (IEEE 802.11), interconnected with satellite backhaul, to bridge the "last mile." Using this technology, GCI makes its wireless ISP ("WISP") services available to rural customers at prices comparable to urban services, and as discussed in more detail below, the combination of competitive pricing with high demand for services in rural areas has mattered. Unlicensed wireless is particularly well suited to deployment in the Alaskan bush, where small, geographically concentrated communities can be served from a single transmitter. While the fact that unlicensed wireless services receive no interference protection can pose a reliability challenge in urban environments with intensive RF use, there are little interference opportunities in rural Alaska. Additionally, unlicensed wireless solutions are well suited for Alaska's rural areas which tend to be above the tree line and undisturbed by mountains.

GCI has invested in a range of technologies and facilities necessary to bring twenty-first century telecommunications and information services to Alaska's consumers, and as a result, Alaskans are among the most connected – if not the most connected – consumers in the country.

[2] NOI at ¶¶ 25 and 30.

III. Availability of Advanced Services Capabilities in Alaska

The FCC asked parties to comment on the availability of advanced telecommunications capability to all Americans.[3] In GCI's experience the reach of advanced services does continue to grow. GCI provides advanced telecommunications services in a state that is one-fifth the physical size of the contiguous United States but has fewer miles of road than the State of New Hampshire. Nevertheless, in terms of Internet access, Alaska has been previously cited as the second most "wired" state in the country,[4] with Alaskans using the Internet more than any other state on a per-capita basis.[5] These broadband penetration rates are based in large part on GCI's deployment of advanced services and facilities throughout Alaska and demonstrate that the status of the deployment of high-speed and advanced services to consumers living in rural areas is significant.[6]

GCI offers broadband cable modem service that passes approximately 90% of occupied census households in Alaska.[7] In more remote areas, GCI offers high-speed Internet service using a broadband platform integrating DSL, satellite, and fixed wireless technologies. Using this platform, GCI offers high-speed wireless Internet services at affordable prices to 90 villages today, with an additional 50 plus villages slated for build-out by the end of this year, and serves five more villages using DSL.[8] Subscribers receive up to 256 kbps downstream/64 kbps

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[3] NOI at ¶¶ 13-14.

[4] U.S. Department of Commerce, Economics and Statistics Administration and National Telecommunications and Information Administration, "Falling Through the Net: Toward Digital Inclusion," Table 1-B, Percent of Households with Internet Access, By State: 2000 (Oct. 2000) at 22. This report evaluates the number of American households and individuals that have a personal computer and an Internet connection.

[5] U.S. Department of Commerce, Economics and Statistics Administration and National Telecommunications and Information Administration, "A Nation Online: How Americans Are Expanding their Use of the Internet," Table 1-1, Internet Use by Percent of State Population (Feb. 2002) at 8.

[6] NOI at ¶ 30.

[7] Demand for GCI's cable modem services grew dramatically after GCI lowered the price of its cable modem service, bundled it with other products, and deployed its own fiber optic cable to the lower 48 states in 1999, thus providing Alaskans with a critical communications link to the rest of the nation.

[8] These DSL-based services are offered in conjunction with the local exchange carrier serving the village.

upstream for $45 per month, a price on par with that paid for comparable service by urban consumers in Anchorage.

To illustrate GCI's reach to rural communities, GCI provides broadband service to Akutan, a village located on Akutan Island in the eastern Aleutians with a population of 713. Over fifty percent of the households in Akutan subscribe to GCI's high-speed Internet offering. This level of subscription is the norm in WISP-served rural communities.

IV. Benefits of Broadband Usage are Demonstrated Through the Widespread Advanced Services Applications, Training, and Programs Available in Alaska.

The Commission asked the parties to comment on the benefits that consumers enjoy by virtue of the deployment of advanced services.[9] In GCI's view, the largest benefits can be seen through the various applications through which consumers make use of advanced services capabilities, the training of local community members to install and service area broadband and WISP equipment, and the programs that GCI supports such as school access and telehealth services.

Applications

There are numerous examples of widely utilized and accessible applications that motivate broadband usage and access such as music and video downloads, on-line shopping, digital photography, web cameras for communications and security, videoconferencing, video telephony, product research, investing, travel/vacation planning, real estate, and telecommuting.[10] Although people in rural areas use advanced services for many of the same things as urban users, in some cases there is a greater need for existing applications in more insular areas. For example, in bush Alaska, on-line shopping is very popular where the majority

[9] *See generally* NOI at ¶ 41.
[10] NOI at ¶¶ 41-42.

of the villages are in extremely rural areas, far removed from urban shopping locations and, even then, typically not connected by a road system. The only available options for ingress and egress are charter planes, boats for communities accessible by waterway, and trucks only once the waterways freeze solid in the winter. Local residents are not able to run to a local Walmart or Sears for basic clothing or household items, and specialty stores are even less available. On-line shopping allows rural users to have access to goods that were formerly available only in more urban-type settings.

Through GCI's WISP services,[11] rural areas see many benefits as various community and business needs are met including the ability for business communication and information sharing amongst local administrators and leaders within a village or between villages; the dissemination of job announcements in and outside of the villages; and computer software updates. For village residents, the WISP program gives them the opportunity to keep in touch with family members across the state or the nation, take online courses and explore educational activities and perform myriad day-to-day activities that would otherwise only be available via phone, fax, or postal and shipping services – if at all. Indeed, when inclement weather disrupts phone or mail services, residents may still have WISP service as a link for vital communications.

Pilots in bush communities have also made use of WISP capabilities for critical functions. Pilots use WISP to track storms and identify other potential air traffic or weather problems. The ability of pilots to access websites that feature weather cameras has proven invaluable in making these assessments, which can change by the minute. WISP services also allow traveling pilots the opportunity to conduct both personal and professional communications that may not otherwise be possible in such rural settings.

[11] The map appended hereto as Attachment 3 provides the numerous locations across the state of Alaska where GCI offers WISP services.

GCI has helped provide other valuable benefits through its WISP services. As it deploys its wireless Internet services into a new community, GCI provides training in each village to, at least, one representative or contractor to serve as the installer of WISP equipment for all village members that subscribe to the service and to trouble shoot for problems as they arise. Such technology training has obvious benefits in bringing additional skill sets into the community and allowing the village to have technical expertise on hand in their community.

Additionally, GCI has engaged in several programs that further encourage broadband usage. For example, many of the village schools benefit from Internet access. As children learn the uses and functions of the Internet, they increasingly want access at home, and often motivate home subscription to high-speed services – providing an opportunity for others in the household to share in the benefits of broadband.

Schools

GCI delivers high-speed services to 293 schools, providing broadband Internet, email, and web hosting access to 76,200 school children. Today, 99% of Alaska's schools have Internet access.[12] Through GCI's distance learning services, school systems are able to provide interactive instructional video and collaborative learning environments. For instance, in the Lower Kuskokwim School District, an area that covers 22,000 square miles, one centrally-located teacher was connected to various schools to teach Algebra I and Geometry classes three times a day, connecting 145 students across 18 separate villages. Similarly, the Bering Strait School District has been able to offer specialized math classes from the Alaska Vocation Technical Center using GCI's distance learning services. These types of specialized offerings are key to satisfying the federal requirements of the No Child Left Behind Act.

[12] The map appended hereto as Attachment 1 provides the numerous locations across the state of Alaska where GCI offers schools and libraries Internet access. *See* NOI at ¶ 34.

GCI is capable of providing broadband services to schools to meet each school's individual requirements, helping to maximize utility and minimize costs. In GCI's experience, schools need different capacity or speeds of dedicated bandwidth for their facilities. This is driven by demand from a particular school or district and patterns of usage from prior years. For example, it is not uncommon that within one school district, in order to serve a range of needs, three schools may require speeds of 256 kbps, two other schools may need speeds at 384 kbps, while a different group of four schools may require speeds at 512 kbps. GCI can engineer its systems to meet these varied needs, thus maximizing the broadband service utility for each school.

Telehealth

In the health care arena, GCI is providing broadband services to 110 rural health clinics in Alaska, bringing technological diagnostic advances – including on-site diagnosis and digital radiology – to some of the most isolated villages in Alaska.[13] Through GCI-provided telecom services, rural health care ("RHC") providers throughout Alaska are able to exchange data, voice, and real-time video. RHC providers are also able to connect with specialists in other parts of the state and Seattle, Washington, allowing them to securely share information, such as confidential patient records and lab results; diagnose and prescribe treatment for remote patients; and obtain continuing medical education credits. The Alaska Federal Health Care Access Network ("AFHCAN") is one of the telehealth applications that operates over GCI's telehealth-related broadband services that it provides across Alaska. AFHCAN has over 240 member sites and is a key resource for health care delivery in rural Alaska, linking community health providers

[13] The map appended hereto as Attachment 2 shows the number of locations throughout Alaska at which GCI is providing a variety of telehealth services. *See* NOI ¶ 4.

with hospital physicians. Store and forward client/server technology requires a minimum of 256 kbps of bandwidth while videoconference capabilities operate uses up to 1 mbps.

Given Alaska's unique geography, telehealth services improve the quality of care for patients in rural communities by allowing them to access specialty care, expand treatment options, and eliminate expensive and sometimes unnecessary air ambulance trips. When inclement weather prevents medical evacuations, telehealth services help make life-saving treatments possible, linking remote village health care practitioners with doctors or specialists from other locations. For example, approximately 18 months ago, a woman in Alaska's Northwest Arctic Borough went into labor miles from the nearest doctor. Because of telehealth services, doctors 200 miles away, in the town of Kotzebue, guided the village's health practitioner through the delivery using live, two-way video and voice technologies. As such, it is not uncommon for a doctor's contact with patients to occur through telemedicine or "tele-consultation". This is not a replacement for personal interaction with a physician, but rather it permits the consistent delivery of quality medical care where previously it was only sporadic or there was none.

V. Cost, Technical Feasibility and Partnerships All Help Drive Decision-Making Regarding Deployment

As an initial matter, the key drivers for GCI's decisions regarding plans for advanced services deployment are the cost and technical feasibility of providing such services to a particular site. These considerations are amplified by the unique physical characteristics of Alaska, which is geographically vast, marked by compactly populated villages that are often separated by great distances from other communities. Indeed, many rural communities are not connected by roads to other locations, and accessibility to these areas by small airplanes is the norm. The harsh weather conditions in the state also make construction, installation and

maintenance costs of telecommunications facilities and infrastructure high. Often the window in which contractors are able to build facilities is narrow given the typical weather in Alaska and frozen land conditions. For these reasons, the Alaska construction season for more remote areas can be as little as 2 to 4 months. Rural construction is typically dependent on the barge schedule and when the rivers are open – usually July through October.

These same considerations regarding weather and terrain also impact what type of technologies GCI deploys. As discussed above, depending on location, GCI uses a mix of technologies to bring advanced services capabilities to Alaskans – cable modem, DSL, WISP, and satellite or fiber backbone.

In GCI's experience, the availability of partnerships with communities and other providers helps determine potential deployment sites. By way of illustration, GCI, in cooperation with partners, Maniilaq Association ("Maniilaq") (a large tribally-owned health care and social services organization) and OTZ Telephone Cooperative ("OTZ") (a local exchange carrier), developed "Inutek.net" - a consortium that provides 10 villages in Alaska's Northwest Arctic region with high speed Internet access and services. Under the partnership, GCI provides the long distance and Internet backhaul services to the villages while Maniilaq provides the on-site technical support including customer equipment and installation. In five of the villages, where OTZ can provide DSL, GCI provides the broadband capabilities to the community, and OTZ provides the last mile to the consumers. In the other five villages, where OTZ cannot provide DSL, GCI provides the wireless last mile to the home. The success of this partnership can be seen in the results with 89% of the subscribers signing up for high-speed access (up to 256 kbps) with rates at about $45 per month. A low speed offering, essentially at dial-up speeds, is also available at $25 per month. Similarly, GCI has entered into a partnership with Bristol

Bay Telephone Cooperative to provide advanced services to eight villages in Southwestern Alaska. In this scenario, in addition to local services, Bristol Bay provides both the billing and technical services within the villages in which the partnership serves. GCI welcomes the opportunity to form other such successful partnerships in the future.

VI. Pricing/Tiered Offerings

In its Notice, the FCC specifically sought comment regarding whether high-speed services are available to consumers in rural areas at rates comparable to those rates charged in urban areas.[14] The Alaska experience demonstrates that the short answer is "yes". GCI has offered its rural WISP services at comparable price and service to the Alaskan urban areas. This approach is consistent with the policies mandated by Congress in the 1996 Act and furthered by the Commission to reduce the barriers – including price – that would negatively impact the ability of consumers to receive advanced services regardless of geographic location.[15] The policies that currently underlie the USF subsidy programs to schools and libraries and rural health care providers are aimed at breaking down these same barriers through distribution of monetary support directly to the user through discounted products and services. Moreover, GCI is able to offer broadband services for lower, competitive prices by providing advanced services in conjunction with existing facilities already deployed to provide long distance, local, and cable services to consumers throughout Alaska. Breaking down barriers to competition in one service market may open the door for even greater service options and availability.

In its Notice, the FCC asked parties to comment to what extent the availability of different product tiers affect penetration in today's marketplace.[16] From GCI's perspective, the

[14] NOI at ¶ 30.
[15] *See generally* 47 U.S.C. § 254 (b).
[16] NOI at ¶ 23.

existence of product tiering can stimulate consumer adoption of available advanced telecommunications capability and help spur further deployment.[17] The theory behind tiered marketing is to tailor the services to the varying needs of the customers. Multiple tiers allow differentiation of use of the Internet by customers, both from a performance and price perspective.

Specifically, GCI has seen the adoption of all available tiers across its customer set.[18] GCI has also seen significant growth in advanced services subscribers on an annual basis. The rapid growth of GCI's introductory cable modem offering (Litespeed) demonstrates the consumer benefits of tiering, as the customer is able to select a product that best suits his or her usage profile. Although GCI's entry-level product – LiteSpeed – does not meet the definition of "advanced services", customers have the option to upgrade to higher speeds as their service usage increases.

VII. Universal Service and Competition Must Work in Tandem to Deliver the Maximum Benefit of Advanced Services Deployment for Rural Consumers

In the NOI, the Commission asks for comments regarding the possible role of universal service in ensuring that deployment of advanced services is reasonable and timely for all Americans.[19] It is GCI's view that subsidies generally are not necessary because when the market is open to competitive entry, carriers will be incented to invest in network facilities for the provision of high-quality, advanced telecommunications services while ensuring that services are delivered to consumers in the most efficient manner and at the lowest price. If constructed correctly, universal service support will neither preclude competitive entry where it is

[17] *See* NOI at ¶ 23.
[18] Currently, GCI offers the following product tiers/speeds: Free LiteSpeed (64/32K); LiteSpeed Plus (128/32K); Silver (512/64K); Silver Plus (1.0M/128K); Gold (1.5M/128K); Platinum (1.5M/256K); Diamond (2.4M/256K).
[19] NOI at ¶ 22.

economically efficient, nor support entry where it is not. Rather, universal service support can be targeted to those locations where the service would not be affordable, and thus, not readily available without it.

GCI's experience in the voice market demonstrates specifically how competition and universal service can work together to benefit consumers. In 1983, 83.8% of Alaska homes had telephones, the second lowest rate in the country. With the introduction of long distance competition, service quality and availability began to increase as rates decreased. As value to the consumer increased, so did consumer adoption. By March of 2002, telephone penetration had reached 96.4%, and in all but one year since 1996, Alaska's rate of household penetration has exceeded the national average. In addition, before the introduction of intrastate long distance competition in 1991, a ten-minute call from Anchorage to Juneau cost $9.25. Now, as a result of competition, the same call would cost $1.40. Hence, the Alaska experience demonstrates that competition is a driver for – not an impediment to – universal service.

GCI's experience delivering advanced telecommunications services throughout Alaska adds another chapter to the universal service story. Though it has been argued that continued subsidy is necessary to ensure facilities investment in rural areas, actual events demonstrated that an ILEC's past receipt of subsidies does not necessarily mean that subsidies are required to ensure that advanced services are made available in rural areas at rates and quality comparable to that in urban areas. Importantly, GCI has accomplished its deployment of advanced telecommunications services *without* the high cost support for broadband services. Nor has GCI received regulatory assurance that it will earn a return on its investment – something to which the ILECs have become accustomed and routinely demand before investing in new equipment. In fact, demands on the USF high cost fund have grown significantly over the past several years, as

incumbents' expectation for full recovery of embedded cost plus a rate of return has gone virtually unchecked.[20] Because all high cost support, other than High-Cost Model Support, is calculated based on the ILEC's embedded costs plus a rate of return, the continued increase in fund demand demonstrates that guaranteed cost recovery to incumbents has not provided any incentive to reduce costs. To the contrary, for rate-of-return carriers, the incentive is just the opposite, to maximize cost as a means of maximizing guaranteed return. Higher costs yield higher dollar returns and more subsidies.[21]

GCI expects that the competitive playing field in the broadband market would have been very different – for the worse – had the Commission provided high cost support for advanced telecommunications services, as some urged in other proceedings.[22] GCI would have been ineligible to receive such support in areas where it has not been designated an eligible telecommunications carrier ("ETC"). This would have forced GCI to compete against an ILEC receiving high cost support as a designated ETC, and would have placed GCI at a significant price disadvantage with respect to broadband service offerings – potentially deterring it from entering the broadband services market at all. The Alaska experience shows that the provision of

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[20] To that end, in a separate FCC proceeding in which the Commission examines potential needed reforms to the high cost support system, GCI has proposed several recommendations for a carrier-neutral universal service program that is focused on protecting and enhancing service in high-cost areas in a cost-effective manner. *See In the Matter of the Federal-State Joint Board on Universal Service*, CC Docket No. 96-45 (rel. Feb. 7, 2003), Comments of General Communication, Inc. (filed May 5, 2003).

[21] Additionally, it is noteworthy that the incumbent receives the same amount of universal service support for a given service territory no matter how many customers it serves in that area. Because ILECs are paid based on total costs, not based on the number of lines served, the subsidy to the ILEC does not change even when it loses customers to the competitor. Competitors receive no such payment.

[22] Almost two years ago, the Joint Board provided the Commission with a recommendation regarding "whether any services should be added to or removed from the definition of services supported by universal service." *See In the Matter of Federal-State Joint Board on Universal Service,* Recommended Decision, CC Docket 96-45 (rel. July 10, 2002). The Joint Board declined to find that high-speed or advanced services should be added to the definition of the supported services pursuant to 47 U.S.C. § 254(c), stating, "because market forces continue to encourage the deployment of advanced and high-speed services, we do not believe that it would be in the public interest to substantially increase the support burden by expanding the definition of universal service to include these services." *Id.* at ¶ 15. GCI agrees that this recommendation is correct.

high cost support can distort market entry to favor subsidized ILECs and deter subsidy-free entry by innovative and efficient competitive carriers. That surely was not what Congress had in mind in Section 254 of the Act. Ultimately, erecting entry barriers through universal service preempts the market's process for discovering efficient entry and robs consumers of competitive benefits.

In contrast to the high cost support mechanisms, the support mechanisms that have been employed for the Schools and Libraries and Rural Health Care (RHC) programs are essentially competition and the encouragement of cost reductions, and as a result, are instructive here for two reasons.[23] First, if the Commission were to determine that subsidies were necessary to further advanced services deployment or adoption, it is critical that any support be provided directly to the end user, rather than to the service provider. In the case of the schools and libraries or rural health care programs the support goes directly to the school, library, or health facility, like a voucher, where the recipient can then choose its own provider. The support mechanism itself does not mandate winners or losers among providers.

Second, if the FCC were to adopt a subsidy program for advanced services, competitive bidding, as used in the schools and libraries and rural health care contexts, should be the model for delivering advanced services to communities that could otherwise not afford them. Through competitive bidding, schools, libraries and rural health care providers are required to select the most cost effective bidder, with price being the primary factor in making the assessment.[24] This efficient, competitive process should be incorporated into any advanced services subsidy program should the FCC pursue that course.

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[23] To that end, there is evidence of price decreases that have occurred over time in the schools and libraries context, for instance, for the Internet access portion, in 1998, the cost was $60.55 per kbps to rural users, while in 2004, the estimated cost is $11.60 per kbps. On a district-wide basis, for satellite delivery, in 1998 a school district paid approximately $3,875 per month for 64 kbps per month download and 64 kbps upload. By contrast, in 2004, a school district would pay approximately $3,750 per month for 512 kbps download and 128 kbps upload.

[24] *See* 47 C.F.R.§ 54.511(a).

VIII. Barriers to Deployment of Advanced Services

Despite GCI's successes in bringing advanced services to customers across the state of Alaska, GCI has experienced its share of barriers to deployment along the way.[25] Although GCI provides advanced services entirely over its own facilities whenever it can, the reality is that in some geographic markets and for some product markets, GCI remains dependent upon certain ILEC facilities. Particularly with respect to urban areas, for sites not passed by GCI's cable platform, and particularly business areas not accessible either over cable or through GCI's fiber loop, GCI must use UNEs provided by the ILEC. Without access to unbundled DSL-qualified loops, GCI would be unable to provide broadband services to a substantial portion of the business market and part of the residential market in its more urban locations. Because there is no intermodal competition to serve these customers that cannot be served over GCI's cable or fiber networks, these customers remain fully subject to and captive of the ILEC's local exchange bottleneck, a remnant of its historical monopoly.

Moreover, in some instances, business customers may require service with different characteristics than the cable modem service, such as faster upload speeds, symmetric transmission, dedicated bandwidth, or greater back-up power than can be provided over an existing cable system. For these customers, an alternative platform is needed for GCI to provide ubiquitous service in a given territory. Because GCI operates a fiber loop, which connects its facilities with the ILEC's five end offices in Anchorage, it serves some business customers directly off of the loop, eliminating any reliance upon ILEC facilities. Despite facilities deployment, however, problems with building access and lack of capacity in conduits have proven too costly or insurmountable, and have hampered GCI's ability to provide full facilities-

[25] *See* NOI at 39 - 40 (where the Commission references prior examinations of rights-of-way issues as one type of barrier to the deployment of advanced services).

based service directly to those businesses passed by its fiber loop.[26] Moreover, extension of GCI's fiber facilities is difficult because many of the conduits and "utiliwalks"[27] are at capacity, and ILECs typically have refused to share any reserve capacity when the facility is nearing exhaustion.

To reach its remaining business customers – a considerable majority – GCI must rely upon access to DSL-qualified unbundled loops, which it connects to its own electronics. These loops are bottleneck facilities, making them an unfortunate but necessary means to deliver broadband services to customers that cannot be served by other means. Just getting the ILEC to provision a DSL-qualified loop and remove bridge taps and loading coils as necessary can be a challenge and often subject to long delay. In addition, GCI has encountered problems in the past stemming from the ILEC adding bridge taps or DAMLs without notice, causing failure of GCI's DSL services on those lines.[28]

For more rural areas, given the unique nature of the Alaskan markets that GCI serves, other barriers to the deployment of advanced services include the difficulty of identifying suitable downlink sites and the cost of building them. As stated earlier, the harsh conditions in the state make construction, installation, and maintenance costs of telecommunications facilities and infrastructure high with limited available construction windows. Satellite services for broadband access services are costly as well and can serve as a barrier to deployment.

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[26] Limited access to entrance facilities into a building and to the riser conduits within the building make it uneconomic for GCI to add customers for service over its fiber facilities. The incumbent LEC's advantages from pre-existing access to buildings and risers are simply too great. The ILEC has entrance facilities into the building as a legacy of its historical monopoly, but typically refuses to share these facilities. GCI must then receive landlord consent to put in its own entrance facilities, which, if given, proves costly considering that the building foundation must be penetrated.

[27] A "utiliwalk" is a sidewalk structure that houses electric and telephone cables. The utilities are accessible by opening sections of the concrete sidewalk.

[28] After a yearlong dispute, an agreement was reached for identification and maintenance of DSL-qualified loops, but at a substantial cost to GCI, both economically and in terms of customer goodwill.

IX. Conclusion

Based on the foregoing, in GCI's experience, the deployment of advanced services is occurring throughout Alaska on a reasonable and timely basis. This widespread deployment is due in large measure to the absence of common barriers to competitive entry, such as legal exclusion or anti-competitive subsidy policies; the general ability of facilities-based providers to self-provision services; and the high demand for reasonably priced, quality services by Alaskans.

Respectfully submitted,

By: _/s/_____

Tina M. Pidgeon
Lisa R. Youngers
GENERAL COMMUNICATION, INC.
1130 17th Street, NW, Suite 410
Washington, D.C. 20036
Tele: (202) 457-8815
Fax: (202) 457-8816
e-mail: lyoungers@gci.com

Its Attorneys

Dated: May 10, 2004