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

In the Matter of	)	
	)	
Modernizing the E-rate Program for Schools and Libraries	)	WC Docket No. 13-184
	)	

COMMENTS OF GENERAL COMMUNICATION, INC.

Chris Nierman
Adam M. Taylor
GENERAL COMMUNICATION, INC.
1350 I Street, N.W., Suite 1260
Washington, D.C. 20005
(202) 457-8815

John T. Nakahata
Jennifer P. Bagg
WILTSHIRE & GRANNIS LLP
1200 Eighteenth Street, N.W.
Washington, D.C. 20036
(202) 730-1300
jnakahata@wiltshiregrannis.com

Counsel for General Communication, Inc.

April 7, 2014

TABLE OF CONTENTS

I. INTRODUCTION AND SUMMARY 1

II. THE COMMISSION MUST ENSURE THAT E-RATE REFORM WILL NOT HARM RURAL MIDDLE-MILE TRANSPORT FUNDING 3

III. ESTABLISHING A NEW "PRIORITY 0" FOR MIDDLE-MILE RURAL TRANSPORT WILL PROTECT REMOTE CONNECTIVITY AND ENABLE THE COMMISSION TO DETERMINE THE BEST WAY TO EQUITABLY ADJUST THE REMAINING SYSTEM 9

IV. THE FCC SHOULD ENCOURAGE CONSORTIUM PURCHASING, BUT IT MUST BE APPROPRIATELY DEFINED 12

V. THE FCC SHOULD CLARIFY THE "CARDINAL CHANGE" DOCTRINE TO ENSURE THAT SCHOOLS AND LIBRARIES CAN READILY UPGRADE BANDWIDTH AS THEY NEED IT, WHILE STILL TAKING ADVANTAGE OF TERM DISCOUNTS 12

VI. VIDEO CONFERENCING IS VITAL TO DISTANCE LEARNING AND MUST REMAIN A PRIORITY 1 SERVICE 13

VII. CONCLUSION 14

I. INTRODUCTION AND SUMMARY

General Communication, Inc. ("GCI") herein responds to the Wireline Competition Bureau Public Notice seeking focused comment on E-rate modernization.[1] As the most experienced provider of broadband connectivity to schools and libraries in the state of Alaska, GCI supports and applauds the Federal Communications Commission's ("FCC" or "Commission") efforts to improve broadband connectivity from the Internet backbone to the student. Alaska has seen first-hand the benefits of high-capacity distance learning: live, interactive distance learning is an essential part of educating rural Alaska, particularly in the Alaska bush, and it has allowed children to live at home, rather than forcing them to move away to complete their education. To continue to improve connectivity between the Internet and the student, GCI suggests the Commission consider using the newly freed $2 billion of additional E-rate funding for one-time support primarily to cover installation costs of underlying in-school infrastructure. The Commission can distribute this one-time infusion of capital while it continues to evaluate long-term E-rate reform, thereby hastening the speed at which schools and libraries can realize the benefits of the funds.

At the same time, the Commission must ensure that it does not inadvertently curtail the ability of rural schools to obtain the middle-mile connectivity they need to reach the Internet. If annual support for what are currently Priority 1 services stays the same or grows, that is not likely to be an issue. But if the Commission curtails Priority 1 support, either directly or by eliminating the distinction between Priority 1 and Priority 2 services, it could reduce the ability of rural schools, particularly those located in communities that are not on fiber backbones, to

---

[1] *Wireline Competition Bureau Seeks Focused Comment on E-rate Modernization*, Public Notice, DA 14-308, WC Docket No. 13-184 (2014) ("Public Notice").

procure the middle-mile transport needed to allow for distance learning. This is a particularly important concern for rural communities in Alaska and elsewhere that are far from fiber transport to Internet aggregation centers. For many rural Alaskan communities, the middle-mile connection from rural communities to Anchorage stretches hundreds of miles—and even then, traffic must travel over undersea cables to Oregon or Washington in order to connect to the Internet. Thus, to the extent the Commission embarks on a dramatic restructuring or elimination of the Priority 1/Priority 2 distinction or adopts per-student or per-building caps or a capitated support amount, it should also adopt GCI's proposal for a "Priority 0" category of services—tied to the existing discount matrix—to ensure that rural schools and libraries can continue to receive support for the middle mile to connect their communities to fiber-based aggregation points that can reach the Internet.

GCI also agrees with the FCC that consortium purchasing may help to achieve more efficient use of E-rate funds. Alaska's schools have been able to achieve more efficient scale economies. The Commission must be flexible in its definition of consortium or bulk purchasing to ensure that anchor institutions in rural areas are able to participate. In particular, Alaska's multi-community regional school districts should all be considered consortia because they are today able to leverage their combined size and scope to negotiate volume discounts.

To streamline the administrative process, the Commission should also clarify that under the "cardinal change" doctrine, schools can upgrade bandwidth and services so long as such upgrades were contemplated and permitted in their service agreement. Cost-effective procurement of broadband requires that schools be able to take advantage of volume and term discounts, which can occur only if schools can increase bandwidth as their needs increase, without requiring them to break the existing contract or to separate augmented bandwidth from

pre-existing bandwidth. Clarifying this point would ensure that E-rate program participants can negotiate volume and term discounts without fear of USAC later frustrating the expectations of the parties by requiring a contract to be rebid.

Finally, GCI is pleased to see that video conferencing services are not included in the category of voice services that may receive reduced support under the Commission's proposal. Video conferencing is vital to remote, rural education and must remain a Priority 1 service.

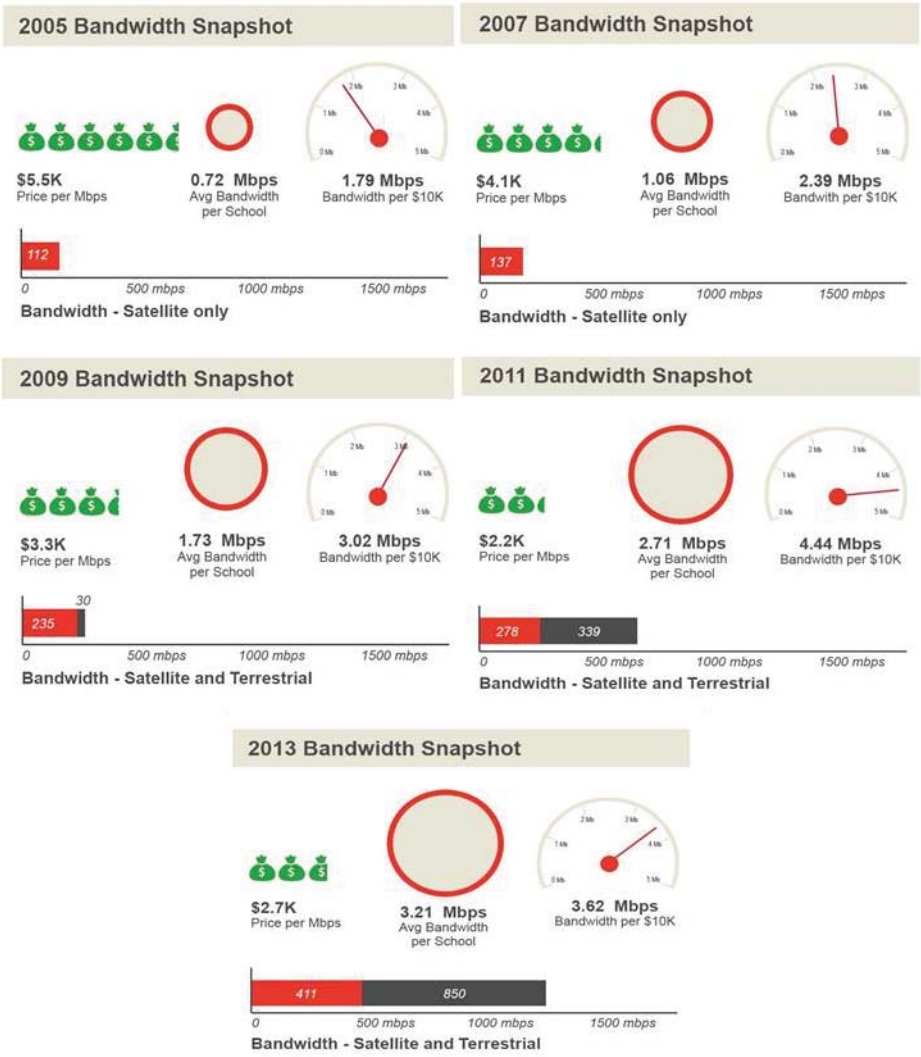
II. THE COMMISSION MUST ENSURE THAT E-RATE REFORM WILL NOT HARM RURAL MIDDLE-MILE TRANSPORT FUNDING

The E-rate program has fundamentally transformed rural Alaskan schools' access to broadband, and this undeniable success should inform the Commission's efforts to determine how best to allocate E-rate support. E-rate is responsible for bringing the cost of broadband connectivity down to an affordable price range for rural Alaskan school districts, and without it, these schools would lose access to broadband Internet service and, most importantly, distance learning. Among the most expensive aspects of broadband service in remote areas, and thus one of the most critical applications of E-rate support in Alaska, is vital long-haul, middle-mile transport between the communities in which schools are located, the regional hub in which the district office is headquartered, and a fiber-based traffic aggregation site (usually Anchorage). E-rate helps to support the cost of the hundreds or thousands of miles of transport necessary to connect villages in rural Alaska to fiber facilities in Anchorage—sometimes over distances greater than that from Washington, DC to Minneapolis—and then over fiber undersea cables to Tier 1 Internet POPs in Washington and Oregon.

Over time, GCI has made significant private infrastructure investments. As a result, the cost of broadband service in Alaska has significantly decreased, while the average amount of bandwidth made available per school has skyrocketed. A survey of bandwidth prices in Alaska's

rural schools demonstrates that the average price per Mbps has dropped by at least fifty percent over eight years, while the average bandwidth per school has more than quadrupled.

BROADBAND PRICE COMPRESSION[2]

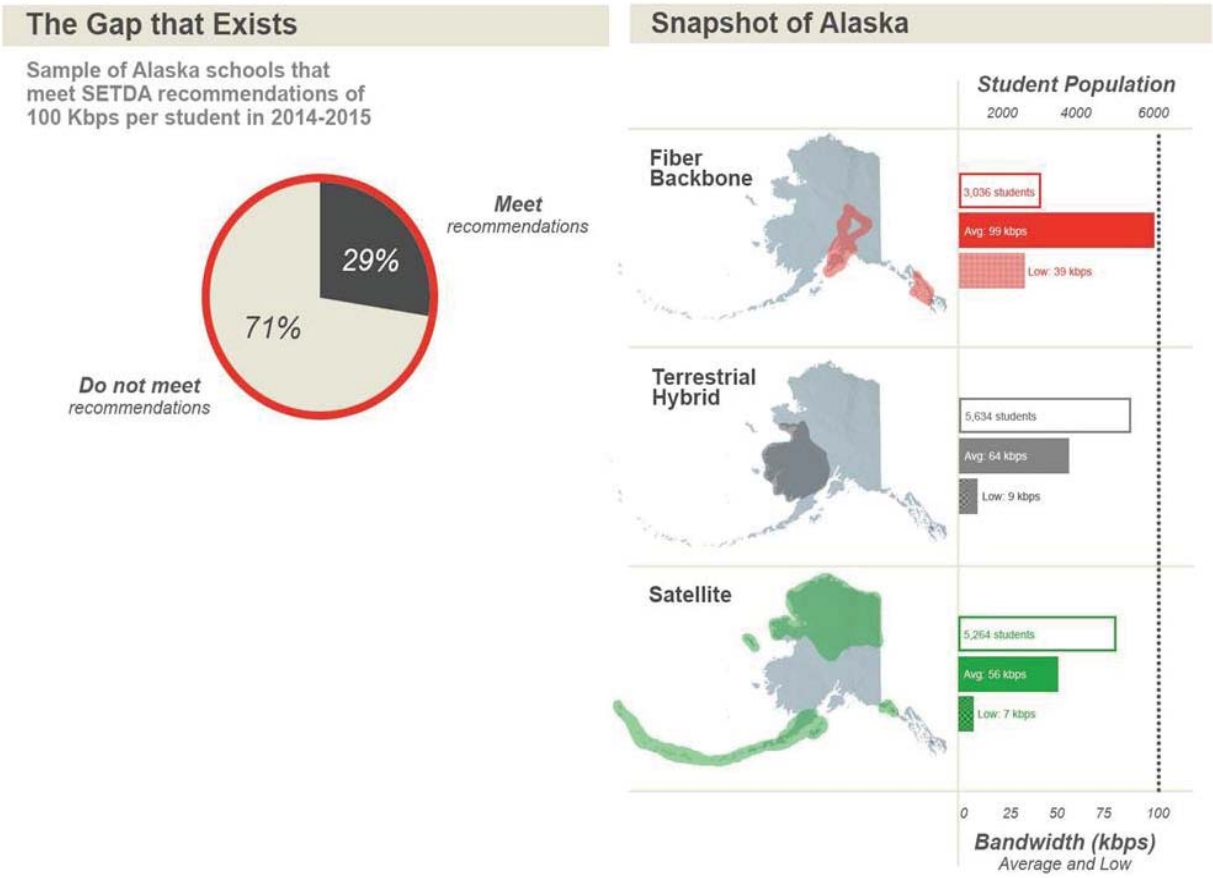


Even with GCI's E-rate successes, more must be done to close the broadband gap faced by rural schools. Even with the reduced prices and increased bandwidth, Alaska still lags the Lower 48 on both metrics, and many schools still do not meet the SETDA 2014-2015 recommendation of 100 kbps per student.

---

[2] Data based on 143 Alaskan rural schools in the GCI SchoolAccess program.

BROADBAND IN ALASKA'S RURAL SCHOOLS[3]



The Public Notice, however, suggests several proposals that could detrimentally impact broadband connectivity to rural schools. For instance, the Public Notice asks whether the Commission should "allocate[] annually a set amount of E-rate funds to provide schools and libraries with funding for LANs and Wi-Fi networks."[4] Because Priority 1 requests now exhaust the entire E-rate fund, without an increase in the total amount of E-rate funding, any funding set aside for Priority 2 services will necessarily reduce the funds available for rural broadband connectivity. For instance, if $2.4 billion is available for distribution and $500 million is set

---

[3] Data based on 143 Alaskan rural schools in the GCI SchoolAccess program.

[4] Public Notice ¶ 10.

aside for LAN and Wi-Fi funding, the amount available for middle-mile and last-mile transport to the school will be reduced to $1.9 billion, while the at least $2.4 billion in expected funding requests[5] will not abate. Before adopting such a proposal, the Commission must ensure that the remaining funds can meet all other Priority 1 service requests. Otherwise, the Commission will be forced to ration funding for the most vital input—broadband connectivity itself.

Predictably, setting aside such a large amount of support for LAN and Wi-Fi networks would result in reduced support or no support for some schools—which could include schools with 35-50% of students eligible for the national school lunch program.[6] Indeed, USAC's latest calculation shows a Priority 1 demand estimate of $2.643 billion.[7] Therefore, setting aside $500 million for Priority 2 services will result in some schools receiving no funding for Priority 1 services. This approach is detrimental to rural transport in particular due to the higher cost associated with deploying services to the most remote and rural school locations. Instead, and in addition to creating Priority 0 for distant long-haul, middle-mile connectivity to a Tier 1 Internet POP, the Commission should retain prioritization of Priority 1 services for connections to a school or library. The fundamental concept of prioritizing connectivity to the school or library over connectivity within a school or library remains sound.

---

[5] *See 03/27/14 – Update on Demand Estimate Preparation*, USAC, *available at* http://www.usac.org/sl/tools/news/default.aspx#968 (last accessed Apr. 7, 2014).

[6] *See* Funds for Learning, FY2013 E-rate Funding Requests, Telecommunications and Internet Access By Schools & Districts, 20 (2013), *available at* http://www.fundsforlearning.com/docs/2013/07/FY2013%20P1%20School%20Demand%20Analysis%202013-07-03.pdf ("Funds for Learning").

[7] *See 03/27/14 – Update on Demand Estimate Preparation*, USAC, *available at* http://www.usac.org/sl/tools/news/default.aspx#968 (last accessed Apr. 7, 2014).

The Public Notice also seeks comment on whether to "provide some support for internal connections that support high-capacity broadband to all eligible applicants in each funding year."[8] Depending upon the level of total E-rate funding, creating an annual allocation for Priority 2 services such as internal connections could severely constrict the amount of funding available for transport and direct funds away from the broadband connectivity needs of rural schools. The cost of broadband connectivity in rural areas is significantly higher than in urban areas (due in large part to middle-mile transport costs), and without some safeguard mechanism, rural schools would be disproportionality harmed by this or any proposal to fund internal connections without first funding these critical transport links. In fact, while rural schools are struggling to connect at all, many urban schools already have broadband connectivity. Were they to receive additional funding for internal connections at the expense of rural schools, urban schools would be even better connected than they already are relative to the least-connected schools, in remote, rural locations. The hardest tasks to fund—those most needing recurring support—are high-bandwidth transport from a community to the Internet backbone, and transport within the community to the school or library. This is what Priority 1 permits today—and what Priority 0 would address—and it should continue to be the first focus of E-rate support.

Another proposal presented in the Public Notice is whether to set available funding levels based on the number of students or the number of buildings.[9] Here again, this proposal would disproportionately affect rural schools. As GCI has explained, a per-student or per-building cap "would inherently discriminate against rural areas that are distant from fiber backbones and have

---

[8] Public Notice ¶¶ 20, 22.

[9] *Id.* ¶ 21.

few students and fewer buildings."[10] As previously explained by GCI, the TERRA network, which by the end of 2014 will connect Nome and Kotzebue to Anchorage, includes areas in which fuel must be helicoptered to remote mountaintop microwave repeaters once a year (and even then only in windows specified in permits).[11] A per-student or per-building cap that does not recognize these circumstances, and the additional costs they create, would deny crucial and necessary support to remote rural areas, and even to towns such as Nome that are not on a fiber network.

For the same reasons, neither should the FCC "prioritize projects by the number of students impacted per dollar of funding."[12] Doing so could only benefit students in more densely populated communities to the detriment of students living in rural, remote locations. In short, a per-building or per-student cap will manifestly harm schools and libraries in the most remote communities, which overwhelmingly are small, with few students and buildings.

The Public Notice also asks whether the Commission should "adopt a flat discount rate for all applicants."[13] Again, without a safeguard mechanism, this proposal would have a disproportional, negative impact on areas where broadband deployment is especially expensive. In remote, rural areas, a flat discount rate for all applicants would exclude rural schools from funding because their share of higher connectivity expenses would be too much for the school to bear. The current discount matrix allocates the appropriate discount based on need and location,

---

[10] Comments of General Communication, Inc. at 12-13, WC Docket No. 13-184 (filed Sept. 16, 2013) ("GCI Comments"); Reply Comments of General Communication, Inc. at 10, WC Docket No. 13-184 (filed Nov. 8, 2013) ("GCI Reply Comments").

[11] GCI Reply Comments at 12-13.

[12] Public Notice ¶ 23.

[13] *Id.* ¶ 28.

while a flat discount would inevitably result in rural schools paying more for broadband connectivity than schools in less remote areas.

In sum, the Commission must carefully consider the impact of its E-rate reform proposals on all eligible E-rate recipients to ensure that anchor institutions in rural locations are not systematically disadvantaged versus entities in urban areas.

III. ESTABLISHING A NEW "PRIORITY 0" FOR MIDDLE-MILE RURAL TRANSPORT WILL PROTECT REMOTE CONNECTIVITY AND ENABLE THE COMMISSION TO DETERMINE THE BEST WAY TO EQUITABLY ADJUST THE REMAINING SYSTEM

The Commission seeks comment on "ways to prioritize applications for deployment costs in the event that the demand for such funds exceeds availability."[14] As explained above, middle-mile transport to rural communities is often the most expensive aspect of broadband pricing, and E-rate Priority 1 funding has enabled remote rural schools to stand on relatively equal footing with urban or suburban schools in terms of proximity to fiber transport links. This has allowed the most remote schools in the country to somewhat close the digital divide, revolutionizing education in their communities through technologies like distance learning.

To avoid undoing these gains in rural areas, the FCC must ensure that funding remains available for critical middle-mile inputs. As discussed above, if the Commission abolishes the distinction between Priority 1 services and Priority 2 services, this support for the most rural areas could be dramatically reduced. Should the Commission pursue this path, GCI urges it to create a "Priority 0" level of support for data transport (either offered as telecommunications or Internet access) from rural communities to fiber-based aggregation points in more urbanized centers.[15] This Priority 0 support would be distributed within the current discount matrix

---

[14] *Id.* ¶ 31.

[15] GCI Comments at 8-11; GCI Reply Comments at 8-9.

structure based on poverty level and the rural nature of the community, with only minor modifications needed to the definition of "rural" to ensure the funds are received by all eligible entities.

To ensure that all truly rural locations are covered, the Commission should target support to schools and libraries classified as "rural" under the National Center for Education Statistics' "urban-centric locale" codes, or as "town," if that community lacks fiber middle mile connections to its state's urban communities.[16] There may be instances in which remote locations are not classified as rural or town and, thus, the Commission should build in the flexibility to tailor the definition when necessary to account for unique situations.[17] While difficult to estimate, all Priority 1 support requests in FY2013—which would necessarily exceed any Priority 0 requests—for schools classified as "rural" under the NCES codes totaled only $511 million, less than one quarter of the available funds.[18]

Thus, creating Priority 0 would do nothing to diminish the Commission's goals in reforming the E-rate program; indeed, it would enhance them. By separating out and prioritizing anchor institutions in truly remote, high-cost areas, Priority 0 furthers the FCC's mandate to ensure universal service to all parts of the country. It will also make all other E-rate reform issues more tractable. For instance, Priority 0 takes into account remoteness, which is a cost variable

---

[16] *See* Common Core of Data, *Identification of Rural Locales*, NATIONAL CENTER FOR EDUCATION STATISTICS, http://nces.ed.gov/ccd/rural_locales.asp#defs (last accessed Apr. 3, 2014).

[17] In Alaska, this would include districts such as the Nome Public Schools (classified as Town-Remote), which is currently connected by TERRA-NW's terrestrial microwave network, but which has no fiber connection back to Anchorage. Similarly, the Kodiak Island Borough School District (classified as Town-Remote) has schools that can only be reached over satellite or by microwave. In addition, several Alaskan school districts are located in remote areas, although their main offices are located in urban areas. *See* GCI Comments at 13-17.

[18] *See* Funds for Learning at 20.

distinct from all others. Even if the Commission could devise a schedule to approximate the reasonable cost of broadband connectivity for schools of different sizes that accounted for scale economies and other non-geographic factors, such a schedule would equitably need to account for remoteness and long-haul middle-mile transport. By segregating funding for remote and rural schools' basic connectivity, that cost factor is effectively accounted for, putting all schools on equal footing.

Once the FCC fulfills Priority 0 funding requests, the remaining funds should be distributed based on the existing equitable discount matrix. This approach will ensure that the most remote locations receive the necessary support and will leave a substantial amount of the fund for Priority 1 and Priority 2 services.

Getting the E-rate funds into the hands of eligible recipients quickly and hastening the process of connecting rural schools to broadband should be a paramount goal. To achieve this goal, the Commission could use the $2 billion infusion of funds for one-time support for one-time costs to install underlying in-school infrastructure to meet the broadband needs of schools and libraries without changing existing Priority 1 support.[19] The Commission could proceed with the one-time support distribution while it continues to assess needed long-term reform including how to fund ongoing support requirements.

Regardless of how the Commission distributes the additional $2 billion of E-rate funds, it should ensure funding for rural schools to reach the Internet backbone (*i.e.*, middle-mile

---

[19] Ex Parte letter from Scott Smith *et al.*, United States Conference of Mayors, to Chairman Tom Wheeler, FCC at 2, WC Docket No. 13-184 (filed March 17, 2014); Ex Parte letter from Sarah J. Morris, Senior Policy Counsel, Open Technology Institute, New America Foundation, to Marlene H. Dortch, Secretary, FCC at 1, WC Docket No. 13-184 (filed March 11, 2014); Ex Parte letter from Mary Kusler, Director of Government Relations, National Education Association, to Marlene H. Dortch, Secretary, FCC at 1, WC Docket No. 13-184, CC Docket No. 02-6, GN Docket No. 09-51 (filed Jan. 27, 2014).

transport) is preserved. The Commission must be mindful that changes to the current E-rate distribution system do not systematically disadvantage rural communities for whom distance learning is an essential component of education, and can be the only way to provide access to specialized or advanced educational offerings.

IV. THE FCC SHOULD ENCOURAGE CONSORTIUM PURCHASING, BUT IT MUST BE APPROPRIATELY DEFINED

GCI agrees that bulk buying or consortium purchasing may help ensure more efficient use of E-rate funds. The FCC must be clear that any definition of "consortium" includes a group of schools, including a single school district covering multiple locations. Alaska's large, regional school districts have been able to aggregate demand and purchasing power among the schools within a district to take advantage of volume discounts, as well as economies in managing and implementing the E-rate supported services.

V. THE FCC SHOULD CLARIFY THE "CARDINAL CHANGE" DOCTRINE TO ENSURE THAT SCHOOLS AND LIBRARIES CAN READILY UPGRADE BANDWIDTH AS THEY NEED IT, WHILE STILL TAKING ADVANTAGE OF TERM DISCOUNTS

To simplify administrative burdens, the FCC should make clear that the "cardinal change" doctrine permits upgrades within a range of bandwidth options provided for in a competitively bid multiyear contract. The cardinal change doctrine states that a modification to work under a contract that constitutes a "cardinal change" will necessitate a new, separate contract. A cardinal change occurs when one party effects an alteration in the work so drastic that it requires the contractor to perform duties materially different from those originally bargained for. If a proposed modification is not a cardinal change, however—*i.e.* the modified work is essentially the same as that which was bargained for—there is no requirement to undertake a new competitive bidding process to implement the change. The extent of any changes in the type of work, performance period, and cost terms as a result of the modification

are all factors to be considered in determining whether the modified work constitutes a cardinal change.

Schools require the ability to upgrade bandwidth and services as needed, without facing time-consuming hassle. The FCC should make clear that an upgrade from one bandwidth level to another, as contemplated within a multiyear, competitively bid contract, is not a contractual change at all and thus not a cardinal change. Alternatively, the FCC could make clear that it is not a cardinal change even if it is a "change." In any event, it is essential for schools and libraries both to be able to enter into and honor multiyear agreements, and to be able to upgrade bandwidth during the term of that contract without prematurely forcing a new competitive bid. This will allow providers to have an assurance that an upgrade will not disrupt the settled expectations of all parties to a contract that includes term discounts.

VI. VIDEO CONFERENCING IS VITAL TO DISTANCE LEARNING AND MUST REMAIN A PRIORITY 1 SERVICE

GCI is pleased that video conferencing services are not included in the category of voice services that may receive reduced support under the Commission's proposal.[20] Video conferencing is a cornerstone for distance learning. GCI has seen video conferencing allow an Alaskan school district covering many far-flung villages to provide classes with highly qualified instructors simultaneously across the whole district, rather than being forced to find instructors for each small, remote school.

Video conferencing is vital to remote, rural education and must remain a funded service. While the availability of "bring your own video" or cloud-based video services with built-in Quality of Service standards is expanding in much of the contiguous U.S., thanks to high-speed

[20] Public Notice ¶ 44 n.70.

broadband availability, such services are not practical in many remote areas where high-speed broadband is not available. In these rural locations, traditional video conferencing services are still critical to obtain the video quality necessary for teaching and learning. The Commission should maintain the Priority 1 status of videoconferencing services that are essential for distance learning even if it decides to reduce or eliminate funding for stand-alone voice services.

VII. CONCLUSION

GCI appreciates this opportunity to participate in the Commission's efforts to reform the E-rate program and applauds the Commission's ambitious goals. Any reforms must address unique rural situations and underlying infrastructure resources. Using the E-rate success in Alaska as a road map for reform, the Commission should create a new Priority 0 category for transport between rural communities and the Internet while retaining the current discount structure. Supporting these distant rural connections, without interposing artificial caps, is crucial to developing the middle-mile infrastructure that Alaska will need to deliver high-capacity, low-latency bandwidth to every school and library in Alaska and other rural areas.

Respectfully submitted,

Chris Nierman
Adam M. Taylor
GENERAL COMMUNICATION, INC.
1350 I Street, N.W., Suite 1260
Washington, D.C. 20005
(202) 457-8815

John T. Nakahata
Jennifer P. Bagg
WILTSHIRE & GRANNIS LLP
1200 Eighteenth Street, N.W.
Washington, D.C. 20036
(202) 730-1300
jnakahata@wiltshiregrannis.com

Counsel for General Communication, Inc.

April 7, 2014