

May 20, 2014

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th St, SW
Washington, D.C. 20554

Re: *Ex Parte* presentation in WC Docket No. 13-184

Dear Ms. Dortch:

In March of this year, several Research and Education Networks (R&E Networks) filed “Expressions of Interest” in the Connect America Fund docket (No. 10-90). These projects expressed interest in participating in the Connect America Fund Rural Broadband Experiments and outlined the need for support for the upfront capital costs (capex) of deploying broadband networks to schools, libraries and community anchor institution sites in rural areas. They suggested that recurring service rates would be much more affordable for these institutions and other broadband subscribers if the FCC could provide financial support for the upfront capital expenses.

Because the FCC is also considering how to address the allocation of E-rate funding for schools and libraries between capex and opex support in the E-rate Modernization proceeding, The Quilt is submitting information about these filings in this E-rate docket as examples of capital investment projects that would benefit schools and libraries. (The Quilt is the national association that represents the R&E network community.) A brief summary of each of these broadband capital investment proposals to improve connectivity for rural schools, libraries and others is contained below. More information about each proposal is available by clicking on the link for each proposal in the attached table.

- The Keystone Initiative for Network Based Education and Research (KINBER) maintains a statewide R&E network across Pennsylvania. KINBER requests one-time capital funding of approximately \$40 million for either last-mile fiber builds or WAN wireless network deployment (where fiber is infeasible) to schools and libraries in at least 26 counties in rural and urban Pennsylvania. The proposed deployment would result in higher bandwidth and on-going cost savings to community anchor institutions and a diminishing level of subsidy.
- The Next Generation Kentucky Information Highway (Next Gen KIH) seeks funding for planning, organizing, deploying and supporting a statewide high-capacity, high-speed fiber optic network focused on the provisioning of middle mile and last mile services.

Wireless technologies would also be leveraged, when needed. Next Gen KIH will provide last mile connection to key CAIs including universities, colleges, K-12 schools, libraries and rural health providers, along with public safety, government agencies, educational television broadcast facilities and businesses. Next Gen KIH seeks \$126 Million in up-front one time funding and an additional \$38 Million in ongoing funding spread over the next 9 years.

- MCNC, which operates the state R&E network in North Carolina, received two BTOP grants that allowed it to build fiber to most anchor institutions in the state, except in two significant areas. MCNC seeks funding to build or lease infrastructure to fill the gaps in Central and Eastern North Carolina to serve 23 additional CAI locations. MCNC proposes to partner with several existing providers and to operate its fiber builds in an open-access manner to allow existing service providers to leverage the funded fiber builds. MCNC believes one-time capital funding is the optimal type of funding for this project.
- Merit, the R&E Network in Michigan, has developed a pilot project to connect 172 CAI locations via 1 Gbps fiber in rural areas of Michigan that do not currently have access to affordable fiber optic connectivity. Merit would manage all construction efforts and deliver an end-to-end managed connection with minimal ongoing connectivity fees to the connected entity. The schools and libraries included in the project are in locations that are unserved by affordable, high-speed, fiber optic connectivity.
- MOREnet, the R&E Network in Missouri, is one of only eight entities filing as an E-rate education/library consortium for its members. As a cost-containment measure, fiber was acquired to move the network backbone from a variable, recurring cost model to a largely fixed cost investment several years ago. As the network has grown, this fixed cost asset has enabled MOREnet to reduce its connectivity rates for all members in each of the last four years. MOREnet proposes a fiber build project in Southeastern Missouri. This project proposes to employ E-rate funding for eligible dark fiber and to use reasonable cost recovery from the subscribers and Connect America Funds to offset the other initial fiber connection, the required on-going fiber maintenance and operations and network management costs.
- In Maine, 70% of Maine school and libraries do not have 100 Mbps connections, and 48% have less than a 10 Mbps connection. Networkmaine proposes to provide a symmetric 1 Gbps connection to 99% of Maine's libraries and K12 schools before the end of 2015. The project would leverage the over 1,100 miles of open access dark fiber installed by Maine Fiber Company as part of its BTOP project for middle mile connectivity and, in many cases, shorten the amount of build-out needed to reach libraries and schools. There are 144 libraries and 257 schools in qualifying census tracts that would be connected through this project. Networkmaine has found that 1.0 Gbps connections are currently the most cost effective to deliver. There is no capital cost savings in delivering slower speeds. The ongoing cost per megabit/second of self-provisioning dark fiber is also much lower than leasing retail broadband services from commercial providers. In fact, symmetric 1.0 Gbps service can be provided over leased

dark fiber at lower costs than what Networkmaine currently pays for retail 10 Mbps carrier-Ethernet service.

- The State of Ohio’s Office of Information Technology and OARnet propose an experimental program that would address the needs of schools and libraries having less than 100 Mbps of service. They would select the schools and libraries in the target census blocks, issue a request for quote (RFQ) for approximately 700 sites from all broadband providers, including wired and wireless options. The project would leverage existing assets where possible and identify special construction costs where necessary. Ohio would then select the most cost effective solutions and determine the amount of one-time special construction costs. Ongoing costs will be consistent with standard rates and in most cases result in affordable service. Obtaining support for the special construction costs will provide additional incentives for build out to residential and business customers.
- OSHEAN, Rhode Island’s R&E Network, proposes to partner with a commercial partner to build fiber loops to serve community anchor institutions in several areas that were not covered by OSHEAN’s BTOP grant: Block Island, three rural school districts, and non-profits in the Adult Education and health and human services sectors. OSHEAN seeks to replace the outdated T-1 circuits currently used by anchor institutions in these service areas.
- The Utah Education Network (UEN) seeks to build on its successful private-public partnerships to aid the deployment of fiber infrastructure for several high-cost rural communities that still lack access to fixed wireline residential or fiber broadband access for consumers and the anchor institutions.

The following table provides links to the R&E network filings in the FCC’s Electronic Comment Filing System (ECFS):

R&E Network	Link to submission on ECFS	Filer Name in ECFS if not the R&E Network	State(s)*	AMOUNT (Millions) - Upper range of EOI estimates used
KINBER	(4 pages)		PA	\$40.0
KyRON	(6 Pages)	Commonwealth of Kentucky - Finance and Administration Cabinet	KY	\$164.0
MCNC	(18 pages)		NC	\$20.7
Merit	(3 Pages)		MI	\$37.0
Missouri Research and Education Network (MOREnet)	(6 pages)		MO	\$50

NetworkMaine	(3 pages)		ME	\$27.5
OARnet	(3 pages)	Pankaj Shah	OH	\$80
OSHEAN, INC.	(14 pages)		RI	\$1
Utah Education Network	(9 pages)		UT	\$6
Total				\$426.2

If there are any questions about this filing, I can be reached at jen@thequilt.net.

Sincerely,

Jen Leasure
President and CEO
The Quilt

cc: Michael Steffen
Lisa Hone
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David Strickland
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