



March 6, 2014



**Letter – Expression of Interest
VIA ECFS**

Chairman Thomas Wheeler
Commissioner Mignon Clyburn
Commissioner Jessica Rosenworcel
Commissioner Ajit Pai
Commissioner Michael O’Rielly
Jonathan Chambers
Federal Communications Commission
445 12th Street, SW 20024
Washington, DC

**Re: Expression of Interest – Rural Broadband Trials
Connect America Fund, WC Docket No. 10-90**

Dear Chairman Wheeler, Commissioners, and Mr. Chambers:

This expression of interest for Connect America Fund (CAF) broadband operational and infrastructure funding to support rural communities is respectfully submitted on behalf of the Eastern Shore of Virginia Broadband Authority and Declaration Networks Group for all eligible census blocks in Virginia under the Rural Broadband Trials program announced at the January 30th FCC Open Meeting.

Background

The Universal Service Fund (USF) transition from wireline telecommunications to establishing a viable and sustainable broadband ecosystem in non-urban areas is critical

to our quality of life and local economies. The ability to have affordable broadband is essential in the 21st century global economy. A significant portion of the country is relying on obtaining broadband capabilities to establish and sustain a healthy and growing local economy, which will lead to regional, and US economic growth. Access to broadband services will provide individual opportunity for commerce, healthcare, education, information, entertainment, government services, and, most importantly, job creation. The CAF program provides an essential link in connecting America's natural resources, agricultural and recreational regions of the nation.

The Eastern Shore of Virginia Broadband Authority (ESVBA) and Declaration Networks Group (DNG) have collaborated to lead this Expression of Interest, which reflects coordinated interest from communities, institutions, and public-private partners that are interested in developing plans to file subsequent proposals, and pilot network funding requests with the FCC's CAF Broadband Experiment for upgrading broadband network infrastructure in rural communities.

ESVBA Overview

The ESVBA was formed in April 2008 by joint resolution of the counties of Accomack and Northampton and charged with providing the citizens and businesses of the Eastern Shore of Virginia with the broadband telecommunications infrastructure they require to be successful and productive in the twenty-first century. By charter, ESVBA is an open access network. Open access means that all qualified telecommunication providers have equal rights to use the network to offer services on the Shore. The ESVBA is directed by a five-member board of directors consisting of public officials and citizens of the two counties. An executive director and a small professional staff operate the ESVBA.

After years of study and evaluation, and the continued decision of the incumbent telecommunications & CATV providers not to allocate capital for significant expansion on the Eastern Shore the citizens and Boards of Supervisors acted to provide the means to improve telecommunications service themselves. Network construction began with an eighty-mile build (backbone) from Virginia Beach, across the Chesapeake Bay Bridge Tunnel, thence north along US 13 and the railroad to Wallops Research Facility. At the southern end it connects with major national carriers. At the northern end it meets Maryland Broadband Cooperative and thence again to national carriers. The ESVBA has also constructed fiber networks in several Eastern Shore Communities including, Cape Charles, Nassawadox, Eastville, Exmore, Belle Haven, Onancock, Parksley, and Chincoteague.

The backbone build was funded through a combination of grants and appropriation. These include an appropriation delivered via NASA, grants from the Federal Economic Development Administration and the Virginia Department of Housing and Community Development. Additional, Accomack and Northampton Counties contributed over three hundred thousand dollars in start-up capital for planning and to form the Authority and begin operations.

While all the grants have been expended and closed, the ESVBA continues to expand its network using its free cash flow from broadband revenues. The ESVBA continues to seek grants and long-term loans to enable it to complete a network that serves the entire Shore.

In order to provide broadband services to unserved and under-served areas on the Eastern Shore of Virginia, the ESVBA is looking to expand its network into these areas using a combination of fiber optic cable, White Space technology and fixed wireless technologies.

Services

The ESVBA operates an “Open Access” network and provides transport and Internet services to all customers on a non-discriminatory basis. The ESVBA has one standard price list for all of its customers. While the ESVBA encourages and promotes service providers to use the network, it also provides all potential customers the option to contract with ESVBA directly for Internet and transport services.

The ESVBA provides the following services:

- Dedicated Internet
- Ethernet Services (E-Line & E-WAN)
- SONET Services

DNG Overview

Declaration Networks Group, a Delaware corporation located in Virginia, is a leader in next generation network deployments and establishes sustainable broadband services across the country. DNG has been an early advocate for the development of a robust White Space ecosystem that will establish viable broadband access networks in secondary and rural markets. DNG is a Co-Founder and the principal architect in the creation and development of the AIR.U Initiative, a consortium of higher education groups, Microsoft, and Google, and was established to deploy high capacity broadband networks leveraging White Space technologies.

DNG Mission and Guiding Principles

DNG’s mission is to establish viable and sustainable broadband ecosystems for local communities, leveraging a variety of technologies best suited for the local service area and users.

DNG believes that a combination of fiber, wireless, and emerging White Space technologies will future proof local broadband ecosystems, provide healthy competition, catalyze innovation, fill gaps from existing providers and extend internet services in support of end-users at work, play and home environments. Investments in broadband infrastructure today should be focused on how users access data and use Internet services requiring both portability and reliability with standard cell phones and smart phone devices. The emergence of Tele-health, expansion of education and job training, public

safety and electronic commerce requires a more flexible broadband local infrastructure for sustainable operations.

AIR.U Mission

The AIR.U mission is to accelerate deployment of next generation networks in educational communities by creating a Nationwide sustainable program deploying high capacity broadband networks leveraging White Spaces. Announced in 2012, AIR.U is a consortium of education associations, public interest groups and high-tech companies organized to establish high capacity White Space networks supporting wireless broadband applications in underserved campuses and their surrounding communities. The founding Higher Ed organizations collectively represent over 500 colleges and universities nationwide and include the United Negro College Fund, the New England Board of Higher Education, the Corporation for Education Network Initiatives in California (CENIC), the National Institute for Technology in Liberal Education, and Gig.U, a consortium of 37 major universities committed to accelerating world-leading broadband connectivity and services. Google, Microsoft, New America Foundation, Declaration Networks Group, LLC, and the Appalachian Regional Commission (ARC) are also founding partners.

DNG designs, deploys and operates high capacity wireless access solutions leveraging White Spaces and other technologies for private networks, commercial and consumers markets. DNG provides consulting and operations expertise for its clients and partners. The company operates with different business models providing managed wireless access networks leveraging White Space and other wireless and fiber technologies. DNG utilizes its White Space and broadband expertise to customize and integrate wireless and White Space technologies as complementary or primary local broadband access networks. Our high capacity access solutions also include best of breed implementations of wired and wireless technologies.

Through collaborative engagements with individual communities and partners, DNG designs, deploys and operates managed local or regional networks tailored for private and commercial applications. DNG provides systems, network, and business integration and program management expertise to create and deploy private networks, public networks and commercial services that leverage existing and new infrastructure with municipalities, Higher-Ed Institutions, anchor tenants and communities.

ESVBA/DNG

Through its collaboration, DNG and ESVBA are submitting an alternative application that incorporates White Space technologies. The companies will leverage their core competencies to increase coverage and build a more robust and efficient broadband network than a comparable, standalone fiber optic cable and fixed wireless network. Through use of a White Space local access network, the fiber footprint will be extended on a more cost-effective basis to fixed locations while increasing portability for First Responders, public safety and mobile users. The second advantage of this approach will allow for a faster initial deployment of broadband services to residences and small businesses.

These networks will interconnect into other state fiber and broadband networks. The White Space network will support residential and business Internet access for end users, as well as public Wi-Fi access for certain areas of the community. ESVBA will provide retail services for residential and commercial users leveraging the broadband infrastructure, Internet access and Internet support services. DNG will also develop new services supporting smart phones, M2M communication and other services. In addition, the portable network will allow for the provision of smart agricultural programs.

The DNG AIR.U program can provide its network solution using White Space technology to deliver broadband services to training centers, K-12 Elementary and Middle Schools within the service areas. This deployment of the DNG AIR.U Network Solution will enable ESVBA to deliver online training programs and also enable online testing of skills, which is a goal of the Virginia Department of Education.

Geographic Territory & Proposed Technology

ESVBA and DNG are interested in applying for all eligible CAF areas in Northampton and Accomack Counties on the Eastern Shore of Virginia. Our guiding principles will include:

- Establishing robust fiber and microwave middle mile transport and backhaul networks as an extension of the current ESVBA networks.
- Initially establish a wireless broadband access network to extend the Internet to target service areas providing a minimum of 5 Mbps for residential and up to 100 Mbps for business and anchor institutions. This capacity will be expanded to higher capacity access as needs develop.
- Extend fiber connectivity to community anchor institutions and larger business or multi dwelling units as needed.
- Establish wholesale transport and access rates for other service providers to allow retail service providers the ability to promote a competitive market for voice and Internet services.
- Enhance wireless services to support FirstNet extension, Telemedicine and extended learning to service areas as those programs are developed in the next few years.

The selection of particular service areas will be prioritized based on the amount of CAF funding provided and program compliance rules established by the FCC. In general we would encourage the FCC to include funding for detail network design, deployment of backbone and local transport networks, buy down of residential and small business CPE to increase adoption and affordability, allow start up operational expenses for first two years to improve sustainability and adoption in these higher cost service areas.

For many rural farming locations that have been difficult to serve with traditional approaches, White Space and other wireless technologies will provide efficient coverage in rural geographies extending Internet and voice networks for the underserved service

areas. ESVBA and DNG will work with agricultural and natural resource programs to enhance smart farming and monitoring services with local and regional programs. Current television services can be adequately delivered with satellite services today, but a terrestrial wireless or White Spaces network would address the users' main concern of faster and more reliable Internet, voice and first responder access for their communities. Portable services supported with smart phone devices are more important for future funding consideration as over 70% of users access the Internet with these devices.

List of Anchor Institutions

1. Eastern Shore 911 Commission
2. Accomack and Northampton Schools except Tangier Island
3. All of the libraries in Accomack and Northampton County
4. Riverside Shore Memorial Hospital, Eastern Shore Rural Health, and Peninsula Regional Health in Chincoteague
5. Accomack and Northampton Governments
6. NASA, Navy, & NOAA at Wallops Island, VA
7. US Fish & Wildlife & US Coast Guard

State and/or Local or Tribal Government Participation in and/or Support for Project

As previously stated, the ESVBA was originally started through funding from the Federal Government (EDA & NASA), Commonwealth of Virginia, and both Northampton and Accomack Counties. All grants have been closed out, and the ESVBA operates and expands its current network utilizing its free cash flow generated from broadband operations. However, the resources required to further expand broadband services to underserved areas greatly exceeds the ability for ESVBA to fund itself.

Existing Providers

The state broadband maps and FCC listings adequately document the existing providers for these purposes and a List of Existing Providers is outlined below.

List of Service Providers

1. Level 3 Communications
2. Cox Communications
3. Windstream Communications
4. Maryland Broadband Cooperative
5. Cogent Communications
6. Baycreek Communications
7. Eastern Shore Communications
8. OnCall Telecom

Project Timeline

Project timelines will be determined by the funding and program requirements established by the FCC CAF rulings. ESVBA and DNG would envision planning and implementing initial networks within six to nine months of award leveraging the existing

network and company capabilities.

Scalability

While most of the anchor institutions are currently being served by the ESVBA, there are many areas where residential customers have no broadband service. Additionally, the incumbent ILEC is not adding any additional equipment to provide DSL and in many instances, these services are not available to new subscribers. This has an economic impact on the business districts in these communities. Also, there is a demand for people to be able to telecommute and to start and maintain home businesses. An ESVBA/DNG collaboration would address the underserved needs of organizations, communities, small business owners and schools. These areas, which are mostly on the necks of the Eastern Shore are sparsely populated. Listed below are anchor institutions that are not currently being served.

Emergency Services

- New Church Volunteer Fire and Rescue Company
- Greenbackville Volunteer Fire Department
- Atlantic Volunteer Fire and Rescue Company
- Saxis Volunteer Fire Department
- Bloxom Volunteer Fire Department
- Tasley Volunteer Fire Company
- Melfa Volunteer Fire & Rescue Company
- Wachapreague Volunteer Fire Company
- Painter Volunteer Fire Company
- Exmore Volunteer Fire Company
- Cheriton Volunteer Fire Company
- Northampton Volunteer Fire & Rescue Company
- Oak Hall Rescue
- Tangier Volunteer Fire Company

Education Facilities

- Virginia Institute of Marine Science-Wachapreague
- Eastern Shore Agricultural Research and Extension Center- Painter
- Anheuser-Busch Coastal Research Center of the University of Virginia-Oyster
- Tangier Public Schools

Total Business Investment

Current USF models provide reasonable guidelines for fiber and wireless network infrastructure investment guidelines. Cost for engineering, right of way access, legal agreements and start up marketing and operations costs are required for these hard to serve low-density areas. A large portion of the former High Cost Fund should be allocated to this innovative program to promote competition and develop a sustainable broadband ecosystem.

Investment Needed

To facilitate the development a sustainable competitive access network, the FCC should establish funding guidelines that provide detailed engineering designs, deployment costs for the networks, subsidies for CPE devices for low density markets to low adoption barriers and improve affordability for residential and small business customers, and allow coverage of operating expenses during roll out and implementation periods.

Total Project Cost

The cost for this project will be approximately \$40,000,000.

Thank you for considering our Expression of Interest in your decisions about the amount of funding that will be allocated in the Rural Broadband Trials. We commend you in this effort to assist in connecting rural communities and are ready to help close the digital divide.

Sincerely,

Nicholas Pascaretti
Executive Director
Eastern Shore of Virginia Broadband Authority

Bob Nichols
CEO
Declaration Networks Group Inc.