

Rural Broadband Experiment 2014

MARKET RESEARCH FORMAT

A Community Broadband Planning Study, Nelson County, Virginia, dated June 8, 2008, was completed and submitted to the Nelson County Economic Development Department. This report stated that Nelson County should invest in a fiber network to stimulate economic development in a variety of ways:

- 1 Grow existing businesses: Fiber optic networks allow businesses to access cost-effective data services that enhance Internet commerce opportunities outside of the County.
- 2 Attract new businesses: The majority of new businesses will hope to locate in areas served by a high bandwidth infrastructure, which would lower their costs for technical services.
- 3 Enable home-based businesses: Many of Nelson County's residents have established home-based businesses that depend on the Internet. The current high costs for bandwidth may force them to relocate to more affordable areas.

As a result of this study and subsequent research, including but not limited to studies by the regional Thomas Jefferson Planning District Commission, the County of Nelson was awarded EasyGrants #891 in the amount of \$1,826,646.00 to install a fiber "middle mile" through the main corridor of the county and five (5) towers. In addition, the NCBA has been awarded a total of 2.2 million, with the additional funds coming from other sources. The project was completed on 12/13/2012.

The "middle mile" fiber line is being used by the County Schools, some of the County's Emergency Service Providers, with a total of about sixteen (16) connections. Of the five towers, one is still not operational, one is being utilized by a Wireless Internet Provider, one is located on Central Virginia Electric Cooperative property and they have an arrangement to utilize it, one is being utilized by a Cell Phone Company and the other one is unused to date.

Nelson County Cablevision Corporation (NCCC) applied for EasyGrants #5488 to connect institutions, businesses and households along the Counties fiber line and to extend service to communities along and beyond the Counties fiber line. However, NCCC's application was denied because some of the financial forms were not submitted, even though the information on the un-submitted forms was contained on other forms that were submitted. Thus, a duplication of financial information. The NCCC grant application request was for 70 percent of the total project of \$14.96 million.

In addition, as the incumbent cable operator since 1968, we have had numerous requests in recent years for High Speed Internet service from individuals, businesses and communities. We are a Service Provider of Satellite Internet WildBlue/Excede, but this service is unaffordable to most households due to the cost of installation and monthly subscription charges and/or its streaming limitations and the need for a clear line of sight to the south west sky.

PHYSICAL GEOGRAPHY

Nelson County is located in Central Virginia, midway between the metropolitan areas of Charlottesville and Lynchburg. US Route 29 is a main four (4) lane highway, running north and south, through the county, which connects Lynchburg and Charlottesville. The total land area is 470.86 square miles with a population density of 31 people per square mile. It is bordered on the east by the James River, on the south by the Tye River, the west by the Blue Ridge Parkway and on the north partially by I-64 and a line which is undefined by natural terrain.

All of Nelson County is considered a rural area. A large portion of the western section of the county is in the George Washington National Forest.

Located in the geographic center of the state, Nelson County is approximately two hours from Richmond, three hours from Washington, D.C. and four hours from Charlotte, North Carolina. The elevation ranges from about 500 feet above sea level near the James River to more than 4,000 feet in the Blue Ridge.

Wintergreen Resort in Nelson County is located in the western part of the county in the Blue Ridge Mountains. Wintergreen Resort has a total land area of 10,945 acres with 2,725 home sites of which 2,250 have homes, Town Homes and Condominiums. Wintergreen Resort has a Gross Density (D.U./Acre) of .42.

Nelson County has a rocky mountainous terrain in the west and central portion and rolling hills to the east as you reach the James River.

CENSUS TRACT INFORMATION

Our service area will cover Census Tracts:

"VA", "51125", "Nelson", "51125950100", 1331,87,492435.38

"VA", "51125", "Nelson", "51125950200", 535,13,200387.3

"VA", "51125", "Nelson", "51125950300", 1502,86,485660.69

According to the United States Census Bureau, the 2011 estimated population of Nelson County was 15,097

TYPE OF ENTITY

Nelson County Cablevision Corporation (NCCC) and Nelson Cable, Inc. are Virginia based corporations. We currently employ 20 full time and part time employees. We provide two (2) offices in Nelson county, in house customer service, technical support, and billing and account maintenance to our subscribers. In addition, we provided a free site for the Sheriff's Department tower, structure and use of our poles, Cable in the Classroom and DirecTV and C-Band equipment to Nelson County Schools and provide free technical support and service to the Nelson County Schools.

Nelson County Cablevision Corporation (NCCC) started its cable system in 1967 in the village of Lovingston, VA with 37 subscribers. In 1974 the current management purchased the majority of the stock in the corporation and expanded the system beyond Lovingston north and south and to the village of Shipman, VA., and beyond.

The Nellysford, VA system began service in 1984. The Scottsville system was started in 1989 and serves adjacent rural areas of Albemarle and Fluvanna counties, which is not part of this proposal.

Nelson Cable, Inc. was organized and started in 1983 as a prerequisite for funding the Wintergreen Resort cable system.

As new technologies became available, our company responded by offering them to our portion of rural America:

1967-present: Local cable TV provider to Lovingston, VA

1974-present: Local cable TV provider to Shipman, VA

1983-present: Local cable TV provider to Wintergreen, VA and Nellysford, VA

1985-2002: C-band satellite service provider

1989-present: Local cable TV provider to Scottsville, VA

1993-2011: Local DirecTV Service Provider offering sales, installation, service, billing and collections with a service area in four (4) counties.

1996-1997: AlphaStar Dealer for satellite television.

1996-2011: Dish Network Dealer for satellite television

1996-2002: DirecPC Satellite Internet provider

1997-2002: WebLink Wireless Pager service.

1997-present: Installed equipment and provided service and programming free of charge to Nelson County Schools for Cable in the Classroom and C-Band equipment for Williamsburg Experience programming.

2000-2003: Nextel Cell Phone service provider.

2001-2002: Hughes Network DrecWay High Speed Satellite Internet provider.

2001-2002: Hosted Web Sites for businesses.

2002-present: Certified Wild Blue/Excede satellite internet sales, installation, and service provider in 5 Mid-Atlantic States

2002-2003: Provided Radio-net Wireless High Speed Internet sales, installation and service to Lovingston and Nellysford, Virginia.

2003-present: Wintergreen Resort fiber/coax line Cable Modem sales, installation and service.

2010-present: Wintergreen resort Digital and HI-Definition cable TV programming.

2011-present: Wintergreen Resort Voice over Internet Protocol (VoIP) provider.

BALLPARK ESTIMATE – COST MODEL

The underground Nelson County Broadband Project is the design and construction of a combined fiber optic and wireless “middle mile” network. The objective is to provide a state of the art high-speed network backbone generally through the center of Nelson County from north to south, providing the “highway” for private providers to enhance and expand broadband internet services in the county.

Our plan is to partner with the Nelson County Broadband Authority (NCBA) to expand our current service offerings along the network backbone and to connect, upgrade and expand our existing Lovington and Shipman system to offer digital cable TV, fiber to the home/fiber to the premise cable modem, and VoIP phone service. One extension would run from the Wintergreen Gate House to Nelson County's backbone at the intersection of River Road and Adail Road in Faber, VA. We want to connect the Beech Grove Community and the homes and communities along Adail Road as we go. In addition, we would provide service to the numerous tributary roads and communities along the route. Another would run from the communities of Browning's Cove in Shipman to the County's backbone in Lovington. By using this route to connect two of our systems together, we will be providing services to all ages, ethnicities, income, and educational backgrounds.

Overall, there are about 48 miles of fiber trunk and 191 miles of feeder. We estimate 3,292 total premises passed. At approximately \$2,300.00 per premise, we estimate the total cost to be \$7.5 million. We are asking for at least 70% funding.

We are in the process of preparing cost estimates for a phase II, to provide service to the communities at both ends of the NCBA line and other possible areas.

TECHNOLOGY TO BE USED

Fiber-to-the-Home/Premise using RFOG EPON system design.

SERVICES TO BE OFFERED

Our digital and Hi-Definition cable TV packages offer over 200 channels of quality programming, including the local broadcast networks at \$64.95 a month. In addition, we offer TiVo set tops and DVR's.

Our current High Speed Internet plans range from a starter plan with speeds up to 768k download and up to 256k upload at \$16.95 per month up to 10 Mb download and 4 Mb upload at \$59.95 per month. Standard installation and a hard wired modem are included.

Our VoIP telephone services offer unlimited local and long distance in the continental US for \$24.95 per month. 911/E911 service and calling features not available by traditional landline service in the area are also included.

HOW MUCH INVESTED, OUTSIDE INVESTORS, & FEDERAL SUPPORT NEEDED

We propose that the Federal support would be needed to construct the “last mile” of the project and that NCCC would finance the underground house drops, the premise Optical Network Terminator (ONT) and Modem. We do not know of or believe that an outside investor would be interested in this project. Verizon, the incumbent telephone company, has informed the NCBA that they have no plans to expand their DSL network in the County.

CREATIVE WAYS TO BUILD NETWORKS IN ECONOMICALLY UNFEASIBLE AREAS

We have in the past purchased equipment and fiber from the Internet eBay Web Site at savings of up to 50 percent and would propose to continue to use this method whenever possible. In addition, we have our in house construction crew with numerous installation equipment items, such as a CAT Track Hoe, Vermeer Trencher, Ditch Which Vibrating Plows, Dump Truck and Trailers.

FUTURE DEMAND

Tourism is a large part of Nelson County’s economy. The Blue Ridge Parkway traverses 30 miles along the County’s northwestern border. Hiking along the Appalachian Trail or to the top of Crabtree Falls are popular recreational activities.

The Wintergreen Resort offers amenities for all seasons. Skiing and snow tubing in the winter are balanced by golf and tennis in the spring, summer and fall. Excellent lodging and conference facilities are available.

The Rockfish Valley Highway is now being called the “Brew Ridge Trail”. It features Blue Mountain Brewery, Devil’s Backbone Brewing Company, Blue Mountain Barrel House and Wild Wolf Brewing Company. Bold Rock Cidery in Nellysford features hard cider varieties made from Virginia apples. Virginia Distillery, Silver Back Distillery and Wood’s Mill Distillery will open soon.

The increase in day trip visitors will eventually turn into overnight guests once larger lodging establishments are built. High speed Internet is a requirement for such tech-savvy, overnight guests. As tourism increases and business grow, new employees to the area will be looking for housing with high speed internet availability.

Nelson County per Capital Personal Income is \$26,996.00 and the Median Household Income is \$48,118.00. However, these amounts include Wintergreen Resort residents where the income is much higher than native Nelson County Residents, many of which have school age children. Any Internet Service needs to be affordable to lower income families. This is why we offer or entry level package for \$16.95. We are continually expanding our Internet service from cash flow. However, without financial assistance we will never be able to provide service to the areas to the more rural areas of the County described in this proposal.