

Broadband USA Applications Database

Applicant Name: LENOWISCO, LLC

Project Title: LENOWISCO Middle Mile Virginia - Tennessee - Georgia

Project Type: Middle Mile

Executive Summary

We propose to purchase dark fiber in order to create an intelligent middle mile network that will provide unheard of distance insensitive low priced bandwidth along the entire length of the broadband corridor created by the proposed Allied Fiber network (see Allied Fiber Southeastern Dark Fiber Network application) from Ashburn, VA to Atlanta, GA. The LENOWISCO Middle Mile Virginia-Tennessee-Georgia project will break the stranglehold that long-haul providers have on Southwest Virginia, Tennessee and Georgia. By the time Internet access reaches any area that is not in a Tier I city, where broadband costs are lower, it has passed through multiple facilities, and has been marked up several times. Thus the people that have the least to give are asked to pay the most. Removing a community's distance from a Tier 1 city as a factor in calculating that community's cost for Internet bandwidth will eliminate one of the major stumbling blocks of nationwide broadband deployment. The LENOWISCO Middle Mile Virginia project will enable small communities to offer the same access to high capacity data and communications that major urban centers can now provide. This levels the playing field for economic development and will allow these communities to effectively attract businesses that require access to very high capacity Internet and data services. Allied Fiber intends to deploy fiber along existing Norfolk Southern railroad rights-of-way and thus will lie outside of existing backbone corridors and traverse through hundreds of small towns and communities. Allied Fiber's network is designed to allow for interconnection every 4,000 feet along the route, which will allow the LENOWISCO Middle Mile Virginia project to provide bandwidth at almost any location along the Ashburn-Atlanta span of the route. The purchase of fiber from Allied Fiber by LENOWISCO is believed to be the major determining factor in Allied Fiber's decision to route via Southwest Virginia and Roanoke rather than Charlotte to Richmond. This project will bring huge capacity along the rail line routes that go through the LENOWISCO area—rail lines that have traditionally carried coal from the LENOWISCO region would also be carrying direct connectivity from the outside world, and directly benefit the people of Appalachia. LENOWISCO's private partner Sunset Digital Communications will bring their breadth and depth of expertise and experience with using a combined backbone/distribution network to long-haul connectivity. Having long-haul backbone capability, as well as the ability to distribute at almost any location will allow customers to be connected at more locations along its route, at a lower cost, than a traditional long-haul project. We propose to initially interconnect with the LENOWISCO Last Mile Virginia project which will bring fiber optic network access to 100% of the population of Lee County and Wise County Virginia. This partnership will also supply the cash flow necessary to startup the middle mile project. According to statistics gathered from the last 317 customers connected in the LENOWISCO service area, 15.8% of customers use their connection for their business, and 2.2% use it to work from home. Applying these

percentages to the connections covered with this grant shows that it will create over 864 work-from-home or cottage industry jobs. In the future we expect the new economy to create a higher percentage of telecommuting jobs, which could double this forecast to 1,728 jobs. The LENOWISCO Middle Mile – Virginia project will allow these job creation numbers to be replicated anywhere between Ashburn, VA and Atlanta, GA by other communities. Technical Description: As the network core bandwidth increases, DWDM (Dense Wavelength Division Multiplexing) systems can be utilized to increase available bandwidth without increasing the need for additional fiber optic cable installation. DWDM systems currently support a maximum bandwidth over a single fiber pair of 1.6Tbps (40 Channels of 40Gbps at 100GHz spacing) with the maximum increasing to 8.8Tbps (88 Channels of 100Gbps at 50GHz spacing) in 2010. Bandwidth capacity is currently relegated to the I-95 corridor on the east coast. It will be a great benefit to Virginia, Tennessee and Georgia to have an I-81/Norfolk Southern fiber route to complement the existing I-95 fiber route through the state. A divergent fiber path brings redundancy to the entire state while providing low-cost bandwidth to the areas that currently go without.