

Broadband USA Applications Database

Applicant Name: Norlight Telecommunications, Inc

Project Title: Rural High-Speed Ethernet Network - Southern Illinois

Project Type: Middle Mile

Executive Summary

Norlight Telecommunications, Inc (Norlight) is proposing the construction of a 1,600+ mile fiber optic network throughout the twenty-four southernmost counties of Illinois, to deliver high-speed Ethernet services. These services will include Ethernet connectivity for Internet access at various speeds from 10Mb; and 10Mb to 10Gb IP transport on either a point-to-point or Wide Area Network basis. The underlying purpose of this initiative is to provide a high-speed broadband infrastructure to a very rural area that can facilitate economic development, the deployment of high bandwidth educational and healthcare application technology to better serve the residents of these counties, and access for public safety and county/city government to better inter-network their data and video communications applications and access the world-wide Web. Norlight Telecommunications, Inc. ("Norlight"), is an integrated full-service provider of telecommunications services that serves school districts, colleges, universities, libraries in the education marketplace, as well as the healthcare industry (doctors, health clinics, hospitals), and city, county, and state government. We offer services throughout an extensive central and southern U.S. regional footprint. We are a facilities-based company that has access to backhaul fiber in 26 states, covering nearly 30,000 miles. Norlight is not a fiber-optic construction company; we engineer and construct fiber networks to enable community anchor institutions to access the broadband capacity and related services they need. Our services are highly reliable and are supported 24x7x365 by redundant Network Operations Centers located in Evansville, Indiana and Brookfield, Wisconsin. Given the establishment of this network, many anchor institutions within this rural area will have access to affordable state-of-the-art telecommunications technology that metropolitan communities predominantly enjoy. For example among these southern Illinois anchor institutions are 202 K-12 schools; 9 college and university campuses; 29 rural hospitals and 46 health clinics; and 28 Public Safety Answering Points (PSAPs). These anchor institutions support a total population of 528,993 based on the 2000 U.S. Census, of which 57.3% live within 116 towns and villages that have an average residency of some 2,500 people each. Residential household passing's within the reach of this network number 237,155 according to the U.S. Census Bureau, with some 20,000 business establishments passed. Based on BIP/BTOP guidelines, the proposed serving area is 91.3% rural based on population and 97.8% when driven by a geography based metric (9,853 square miles in total). The proportion of geography that is unserved is 78.0%. In total the proposed service area is 90.6% underserved. To provide reach to these anchor institutions, Norlight has established a service area that includes the majority of the geography within the counties listed in the table below: Norlight Southern Illinois High Speed Ethernet Network Service Area Counties Served Alexander Hamilton Massac Saline Clay Hardin Perry Union Edwards Jackson Pope Wabash Fayette Jefferson Pulaski Wayne Franklin

Johnson Randolph White Gallatin Marion Richland Williamson To cover our costs and profit expectations, Norlight expects to sell 500 customers' access to the proposed high-speed Ethernet Network, including 35% of all of the K-12 school sites within these counties. To incent customers to commit to subscribe to services ahead of their introduction, Norlight will provide three tiers of pricing:

Tier 1 – Pre-Identified Anchor Accounts: Any of 284 Anchor Accounts included in the plan will receive the most preferential pricing with no limitation on loop length to connect to the proposed network. Using Gb and 100Mb pricing as examples, a Gb link will be priced at \$1,250/month and 100Mb at \$1,000/month.

Tier 2 – Next 350 Accounts (excluding pre-identified Anchor Accounts): The next 350 accounts to execute Service Agreements will receive pricing equivalent to the Pre-Identified Anchor Accounts with the exception that their sites must each be within 3,000 feet of the proposed network. The pricing for distances beyond 3,000 feet will be subject to a distance related surcharge that will be directly related to the corresponding loop length. Using Gb and 100Mb pricing as examples if sites are within 3,000 feet of the network, a Gb link will be priced at \$1,250/month and 100Mb at \$1,000/month.

Tier 3 – Beyond 350 Accounts (excluding pre-identified Anchor Accounts and the initial 350 subsequent accounts): Beyond the initial 350 accounts, any other subscriber executing Service Agreements will have their pricing determined from a different pricing schedule. Using Gb and 100Mb pricing as examples, a Gb link will be priced at \$3,000/month and 100Mb at \$1,500/month. The pricing for distances beyond 3,000 feet will be subject to a distance related surcharge that will be directly related to the corresponding loop length. Because of our conservative nature, in the event this application is approved, we will not draw down on any approved BIP/BTOP funds until sufficient Service Agreement customer commitments are received to reach necessary penetration levels. We expect to accomplish this within a 90 day period in the event of award approval. Carrier access to the network will be made available on a non-discriminatory basis at competitive prices, for backhaul transport and special access transport services.....to further stimulate economic development in this heavily rural area. Norlight is particularly interested in attracting wireless providers for backhaul transport, as they serve the residential and small business markets with affordable Internet access services. We believe that our proposed network coupled with various wireless Internet provider assets is an excellent technology model for this large rural area. Wireless Internet companies are better suited to pursue sub-10Mb customer needs, while Norlight's proposed Ethernet infrastructure is poised to handle all of the high-bandwidth needs of the service area. For any given customer, our Ethernet services are priced to include all required termination equipment at the main hub and at each of the remote sites. Norlight offers native Ethernet services from 10Mb to 10Gb speeds. Our solution is faster, more flexible, and less costly than other high speed WANs, advantages that directly benefit subscriber businesses and institutions. The following are a few of the key advantages: . The network is non-blocking. Each site gets their full respective subscribed throughput over a circuit that is not shared with anyone else. . Customer IT staff have direct control. VLAN routing, administration and QoS control can be directly established across the network by customer IT personnel without the need for Norlight involvement. . The network is maintained by Norlight's staff of technicians at Norlight's Network Management Center in Evansville, Indiana, (where technicians are available 24X7x365 to take trouble reports) and in the field. Norlight has route technicians responsible for the fiber and terminating equipment located at each site premise, who are ready to respond rapidly to problems. . There are no queues for the traffic to wait on if the network is busy or under-engineered. The network design enables the dedication of subscribed bandwidth

between communication locations, resulting in low latency and a faster network than most rural customers will have previously experienced. . Fiber drops will be terminated within each building at a demarcation point (demarc) as defined by the customer. We don't follow the standard operating procedures of the local phone company (LEC), which prescribe this demarc at the minimum point of entrance. Instead, Norlight will establish the demarc within each building at a location of your choice, where a fiber distribution panel (FDP) will be installed to terminate the fiber in each of the buildings and then patched over to our optical equipment. . Fiber will connect each hub to its remote location. The configuration of the equipment for providing this network will be a small network termination equipment (NTE) device in the remote location (usually a switch or media convertor) and a larger switch or array of media convertors at the hub site. Norlight's capital investment in this project is expected to be \$28,460,749. Job creation will be driven from two sources. The initial employment catalyst will be tied directly to the two year construction and business development phase. This will temporarily account for some 74,890 man hours of fiber optic related technician positions and one customer service/account executive. Once the network has been on-line and integrated into the communications infrastructure of the towns and villages it serves, the resulting economic development will positively contribute to incremental and sustainable long term employment throughout this twenty-four county area. We make this assertion partially on the basis that our survey of the underlying 42,859 Census Blocks indicate that the proportion of "unserved"/"underserved" broadband penetration is just over 90%. Median household income in the proposed area is \$31,422 based on the 2000 census, some 25% below the national average, with the individual poverty level at 15.6%, also posting another negative measure of economic health that is almost 26% above the U.S. norm. Investing in a high-speed broadband communications infrastructure is an obvious antidote, among many others, made possible through BIP/BTOP funds that would not otherwise occur given a lack of necessary population density.