

Broadband USA Applications Database

Applicant Name: Mille Lacs Energy Cooperative

Project Title: Mille Lacs Energy Wireless Broadband

Project Type: Last Mile Remote

Executive Summary

Mille Lacs Energy Cooperative (MLEC) is headquartered in Aitkin, Minnesota. MLEC is a member-owned rural electric distribution cooperative, which currently provides electric service to over 12,500 members in parts of Aitkin, Crow Wing and Mille Lacs counties. As a diversified service offering to the cooperative membership MLEC provides Internet service to over 1,750 subscribers through the means of dial-up, satellite, and fixed wireless facilities. The proposed funded service areas are located in north central Minnesota, approximately 100 miles north of the Minneapolis/St. Paul and approximately 80 miles southwest of Duluth. The areas are very rural and sparsely populated, with trees and lakes covering much of the landscape. The 5 proposed service areas have a combined population of 1,653 and have a total of 1,984 households. Although there are not any anchor institutions within the proposed service areas, Broadband coverage to these areas would still benefit the local rural emergency services, including Police departments, two County Sheriff offices and the local Hospital located in Aitkin. Bringing broadband would allow more opportunities and provide data connectivity that could be used for security and video surveillance and telecommunications by local residents for employers. Additionally, this project would enhance MLEC's ability to move forward with plans and needs for future Smart Grid distribution system design. The broadband network would become the backbone for the communications infrastructure for the Cooperative's substations, line switches, AMI system and all future automation of the distribution system. The project deployed would allow MLEC to offer data speeds up to 3 MB to residential customers and up to 5 MB for business customers. Pricing points will start at \$29.95 a month and go up to \$49.95 a month for residential users. Business customers pricing will start at \$49.95 a month and go up to \$79.95 a month. MLEC also plans to offer special reduced rates to all critical community facilities located in these areas. MLEC will fully comply with the requirements of non-discrimination and interconnection as stated in the FCC's Internet Policy Statement (FCC 05-151, adopted August 5, 2008). MLEC supports the free flow of information and ideas over the Internet and does not actively monitor use of Internet services. MLEC does not exercise editorial control over the content of any web site, electronic mail transmission, newsgroup or any other material created or accessed through MLEC's services. The project being proposed would expand MLEC's existing 2.4 GHz fixed wireless broadband network into five (5) presently unserved areas. This would be achieved by adding 5 new tower sites. The communication between the towers will use 802.11a unlicensed 5.8 GHz point-to-point radios and the end user CPE would use 802.16e licensed 3.65 GHz 4th order diversity WiMax radios. This project would also require upgrading of backhaul equipment at 6 of the existing towers, to allow for adequate transport of data from the new towers to MLEC's corporate office where all the head-end equipment now resides. The head-end equipment and software will also need

upgrading to better handle the new customer base and needs. MLEC has been offering Wireless Internet service through unlicensed 802.11b on the 2.4 GHz frequency since 2002. Currently MLEC broadcasts 2.4 GHz from 12 tower sites, providing coverage throughout the Mille Lacs lake area in north central Minnesota, including the towns of Aitkin, Onamia, Isle, Wahkon, Garrison, Palisade and McGregor. MLEC currently uses the 5.8 GHz frequency to carry the backhaul of the services back to the main 10 MB fiber connection out to the Internet. The business is fully functional and staffed to support the growth of this proposal. MLEC is in a position to begin work immediately on the proposed project area upon grant approval. With the existing infrastructure and backhaul in place, the process of building the new towers would start immediately and MLEC would be able to start offering broadband access by the 3rd quarter of 2010 to the first service area. The cost to add the additional towers, along with equipment improvements at 6 of the existing tower sites to broadcast to the remote service areas would be \$1.69 million dollars. The projected customer base in the funded service area would be approximately 560 subscribers after 5 years. MLEC would need to hire contractors to build out the infrastructure in a timely manner. A full time employee has been hired for installation and maintenance of the system. The project would not only bring employment opportunities to MLEC but also to the local communities by providing the ability for more telecommuting for job trades and provide the Internet connection necessary for students that need access to school systems for on-line education.