

Broadband USA Applications Database

Applicant Name: Midwest Energy Cooperative

Project Title: Midwest Broadband Project

Project Type: Last Mile Non-Remote

Executive Summary

With stimulus funding, Midwest Energy Cooperative (MWE) will bring next-generation, affordable, wireless broadband services to underserved populations within Southeast and Southwest Michigan, as well as northern Ohio and northern Indiana. Due to low population density, current broadband Internet access methods are overpriced and under-delivered. Through WiMAX (Worldwide Interoperability for Microwave Access), MWE will deliver affordable, reliable broadband service with 2 Mbps speeds within 12 months of funding. Furthermore, bringing broadband will enable MWE to pursue Smart Grid solutions allowing consumers to better manage their energy consumption. Through its membership in the National Rural Telecommunications Cooperative (NRTC), MWE will partner with NRTC and DigitalBridge Communications Corp. (DBC) on this project. For over 20 years, NRTC and its 1,500 members have been providing advanced telecommunications services to rural communities. DBC has already successfully delivered WiMAX to 15 rural and underserved communities across the USA and will provide MWE with the technology and ongoing support to replicate this success in MWE's proposed funded service areas (PFSAs) in MI, IN and OH. OPPORTUNITY THE SYSTEM ADDRESSES MWE provides electrical service and telecommunications products to roughly 35,000 members in Michigan, Indiana and Ohio. In recent years, MWE has been approached by members and consumers – 47% of which access the Internet via dial-up - to bring reliable, sustainable broadband service to the region. When deployed, this WiMAX system will enable residents, businesses, schools, healthcare providers and emergency responders to have a complete and affordable broadband solution. Stimulus funds will allow MWE to continue supporting local entities with broadband access at a 25% discounted rate to all critical community facilities in the PFSAs. PROPOSED FUNDED SERVICE AREAS (PFSAs) The proposed funded service areas cover 17 counties. The Southwest Service Area (Southwest SA) includes portions of Allegan, Berrien, Cass, St. Joseph, Kalamazoo and Van Buren Counties in Michigan, as well as St. Joseph, Elkhart and LaGrange counties in northern Indiana. The Southeast Service Area (Southwest SA) includes portions of Hillsdale, Lenawee, Monroe and Washtenaw counties in Michigan, as well as Lucas, Williams and Fulton Counties in northern Ohio. The total number of households in both PFSAs is estimated to be approximately 120,406 based on detailed mapping performed at the census block-level and is reflected in the Last Mile Service Details. The USDA on-line mapping tool, which is less precise, indicates a total population of 403,211 with 168,485 households. Regardless, MWE will serve all households in the PFSAs. Saturation of broadband in these regions is absolutely necessary to stimulate growth and economic development in an area with some of the highest unemployment in the country. Without the ARRA broadband stimulus funds these communities, households and businesses will not have the opportunity for quality broadband access. HOUSEHOLDS/BUSINESSES PASSED MWE's PFSAs will pass

120,406 households and 11,960 businesses. COMMUNITY ANCHOR INSTITUTIONS/ORGANIZATIONS AND PUBLIC SAFETY ENTITIES The project includes providing broadband access, education, awareness, training and equipment at 12 primary county buildings, 12 sheriff's offices, 13 state police posts, 40 local police departments, 75 community centers (libraries), 58 first responder locations for fire and rescue, 47 major healthcare provider facilities and 52 school districts (all levels) in MWE's PFSAs. PROPOSED SERVICES AND APPLICATIONS As part of MWE's "Score One for the Home Team" program, MWE will incorporate an option that includes distribution of next-generation "4G" devices (e.g., USB adapters and WiMAX-enabled notebooks/laptops) to community centers and schools. A survey of MWE counties found that bringing broadband to its consumers would mean 47% of residents would likely monitor their child's grades and communicate with their child's teacher, 33% would likely take college classes online and 33% would likely work from home or start a home business (Page 22 of Supplemental Information 3). Critical community facilities, including approximately 125 first responders/public safety officials will be offered a 25% discount on advertised broadband access rates. Please refer to the over twenty letters of support documenting MWE's collaboration with local entities and their need for broadband delivered through WiMAX. These letters of support may be found in the Question 41 upload "Government and Other Key Partnerships." Additionally, MWE has over 400 e-mails from members on file expressing their need and desire for broadband. NON-DISCRIMINATION AND INTERCONNECTION OBLIGATIONS MWE will comply with the principles of the FCC Internet Policy (FCC 05-151). Customers will be entitled to access lawful Internet content of their choice and MWE will not favor any lawful Internet applications and content over others. Furthermore, customers will be allowed to run applications and services of their choice, subject to the needs of law enforcement and reasonable network management and to connect their choice of legal devices that do not harm the network. MWE will display network management policies on its Web page and will provide notice to customers of changes to these policies. Customers will connect to the public Internet directly and MWE will not operate a private closed network. Finally, where it is technically feasible without exceeding current or reasonably anticipated capacity limitations, MWE will offer interconnection on reasonable rates and terms to be negotiated with requesting parties. TYPE OF BROADBAND SYSTEM WiMAX is an established international standard for wireless telecommunications that operates on licensed frequencies of radio spectrum to deliver high-bandwidth data services using all-Internet Protocol (IP) architecture. WiMAX delivers the high speeds of cable and DSL landline broadband, only wirelessly, without high deployment costs. While a Wi-Fi hotspot can provide wireless connectivity to a small area, a WiMAX network can blanket an entire service area with high-speed, wireless Internet connectivity at very low costs relative to wireline services. No other technology offers such a full set of differentiated services in a variety of wireless fashions—fixed, portable and mobile. MWE's WiMAX deployment would be capable of serving approximately 10 to 25 times the number of households per network dollar spent versus wireline solutions. MWE believes it can provide wireless broadband to its proposed service area for \$104 per household passed compared to \$1,000 or more per household for wireline deployments. It is higher than DBC's benchmark of about \$50 per household passed due to the need for more fiber backhaul versus microwave in MWE's proposed service footprint. The fiber ensures service reliability for end-users and will meet bandwidth demand. WiMAX technology uses licensed spectrum, which translates into a reliable, sustainable, high-quality, wireless broadband service with 2 Mbps speeds. Wireless broadband solutions can be readily upgraded to include mobility or additional system capacity,

enhancing performance of the system without the need to dig up streets and upset the environment. In fact, DBC already has upgraded some of its wireless systems to the newest generation of the WiMAX platform, without having to change or remove any hardware. The standards-setting community anticipates that the WiMAX infrastructure deployed today, with modest network improvements, will be capable of reaching speeds exceeding 10Mbps and system capacity that is fourfold, without any stranded capital investment.

APPLICANT QUALIFICATIONS Through MWE's subsidiary, Midwest Connections, MWE has extensive experience delivering high-speed Internet access through satellite delivered broadband via WildBlue. WildBlue offers high-speed Internet access via satellite to consumers that generally do not have access to other broadband solutions. MWE began offering WildBlue satellite Internet in 2005 and currently has approximately 450 customers. For approximately ten years and in partnership with TransWorld Network, MWE has also offered a high quality dial-up Internet program and an affordable, direct-dial long distance telephone service. Additionally, in partnership with International Broadband Electric Communications (IBEC), MWE has been deploying and operating a Broadband over Power Lines (BPL) pilot program. BPL uses the existing infrastructure of MWE's own electric distribution system. Because it is delivered over power lines, consumers access the Internet through a common electrical outlet. While MWE is proud of its history providing broadband through WildBlue and is excited about the prospect of BPL, it believes that WiMAX is the best and most cost-effective solution to meet the needs of its community. The letters of support ("Government and Other Key Partnerships" attachment) from townships, school districts, economic development councils and health organizations document the need for broadband and the desire at the local level to have a wireless broadband solution.

INFRASTRUCTURE COST The overall infrastructure cost of the WiMAX system is \$12,534,500. The cost of this WiMAX system is significantly more efficient on a cost-per-household and cost-per-subscriber basis than other delivery methods.

OVERALL EXPECTED SUBSCRIBER PROJECTIONS FOR THE PROJECT MWE projects that deployment will attract 30,700 subscribers (30,102 residential and 598 business) over the initial five-year period of 2010 to 2014.

JOBS CREATED AND SAVED MWE expects to create 65 new jobs and save 15 jobs (see Page 1 of Supplemental Information 3 for an explanation of jobs created and saved through the project).