

Broadband USA Applications Database

Applicant Name: Richland Electric Cooperative

Project Title: Richland Electric Cooperative WiMAX Deployment

Project Type: Last Mile Non-Remote

Executive Summary

Richland Electric Cooperative is seeking funding to bring next-generation, affordable, wireless broadband services to unserved and underserved populations in the greater Richland County, Wisconsin area. Due to low-population density, current broadband access methods are overpriced and under delivered. Using WiMAX (Worldwide Interoperability for Microwave Access) technology, Richland Electric will deliver affordable, reliable broadband service with 2 Mbps speeds within six to 12 months of funding. Through its membership in the National Rural Telecommunications Cooperative (NRTC), Richland Electric will work with NRTC and DigitalBridge Communications Corp. (DBC) on this project. For over 20 years, NRTC has been providing advanced telecommunications services to rural communities. DBC has already successfully delivered WiMAX to 15 rural and underserved communities across the United States and will provide Richland Electric with the technology and ongoing support to replicate this success in Richland Electric's service territories. Opportunity the System Addresses When deployed, Richland Electric's WiMAX system will enable residents, businesses, schools, healthcare providers and emergency responders to have a complete and affordable broadband solution that scales well into the future. Stimulus funds are critical to ensuring that Richland Electric is able to continue supporting local entities by providing free broadband access to local emergency agencies and reduced-cost access to educational and health care providers. As an involved economic-development participant, Richland Electric recognizes the need for broadband in the development of entrepreneurial enterprises including business startups, research and development projects and other projects. To support economic development, Richland plans to offer appropriate discounts and incentives. Proposed Funded Areas The proposed location covers a large portion of Richland County, Wisconsin, and parts of Sauk, Grant, Vernon, Crawford and Iowa counties. Saturation of broadband in these regions is necessary for future growth and economic development. Without stimulus funds, the homes and businesses this project proposes to serve will not have access to quality broadband. Wide expanses of land in the service area make it infeasible to provide wireline broadband to many locations. With WiMAX, all homes and businesses within the service footprint will have access to broadband. The territory's population is estimated to be approximately 40,055. This is based on detailed mapping performed at the census block-level and is reflected in the Last Mile Service Details. The USDA on-line mapping, which is less precise, indicates a population of 20,200. The proposed service area is 100% rural and encompasses 14 census designated communities (villages and towns) and 7 other areas (counties). All of the 14 census designated communities are underserved. More than 62% of the households in the proposed service area do not have access to facilities-based, terrestrial broadband service at greater than the minimum transmission speed. With stimulus funding, the project will be fully funded, shovel ready and capable of

providing broadband to all homes and businesses within the service footprint. Households and Businesses Passed According to our detailed mapping, the wireless network for the proposed funded service area will cover 17,606 households and 3,483 businesses. Community Anchor Institutions, Public Safety Entities, Community Organizations Involved with the Project The plan includes broadband access, education, awareness, training and equipment at 26 anchor institutions located throughout the service area, including administrative offices, government offices, law enforcement, 10 community centers, 5 first responder locations for fire and rescue and 3 school districts. Proposed Services and Applications Richland Electric will offer last-mile broadband access through WiMAX technology, which will initially be deployed in a fixed architecture, but is expected to migrate to a mobile architecture within 5 years. At community centers and schools, we will distribute next-generation "4G" devices (i.e., including USB adapters and WiMAX-enabled notebooks/laptops) consistent with the needs shown by the community. Critical community facilities, including at least 10 township government offices and the local emergency government mobile command facility will receive free or discounted (at least 25% lower than advertised rates) broadband Internet access. Approach to Addressing Non-Discrimination and Interconnection Obligations We 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 Richland Electric will not favor any lawful Internet applications and content over others. Further, 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. Richland Electric commits to offering wholesale access to the project facilities at reasonable rates and terms. In the event towers are built with grant funding, we will make affordable access available to other operators who wish to bring wireless broadband services to the area. We will display our network management policies on our Web page and will provide notice to customers of changes to these policies. Customers will connect to the public Internet directly, and we will not operate a private closed network. Finally, where technically feasible without exceeding current or reasonably anticipated capacity limitations, Richland Electric 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 Digital Subscriber Line (DSL) landline broadband, only wirelessly, without the high deployment costs. It also has the added feature of mobile capability. 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 voice, data and premium video services in a variety of wireless fashions—fixed, portable and mobile. 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 10 Mbps and system capacity that is fourfold, without any

stranded capital investment. Qualifications of the Applicant Richland Electric has extensive experience delivering high-speed Internet access through WildBlue and a limited fiber-optic network. Richland began offering WildBlue satellite Internet in 2005 and currently has over 500 customers. Our fiber-optic facility interconnects key urban facilities, such as the county government. While Richland is proud of its history providing broadband through WildBlue and our fiber-optic network, we believe that WiMAX is the best and cost-effective solution to meet the needs of our consumers. Richland was also a pioneer in bringing dial-up Internet access to the community in 1994 and continues providing that service today—because cost-effective broadband service is not available. These dial-up consumers repeatedly express their desire for affordable broadband and encourage Richland Electric to develop a solution.

Overall Infrastructure Cost of the Broadband System The overall infrastructure cost of the WiMAX system will be \$2,575,865. This includes a network build-out of \$2,015,755 and \$560,110 for the consumer premise equipment and installation necessary to connect the first three years' projected subscribers to the wireless network. With the appropriate level of stimulus funding (BTOP), cumulative cash flows from operations are positive over the term of the project and we attain cumulative profitability within five years – ensuring project sustainability.

Overall Expected Subscriber Projections for the Project We project deployment will attract 1,656 residential subscribers and 75 business subscribers over the initial five-year period 2010-2014.

Number of Jobs Estimated to Be Created and Saved This project will create up to eight new jobs for Customer Service Representatives, Installers, Sales Staff, Technicians and System Engineers. Indirectly, the number of jobs created could reasonably be expected to number in the hundreds as broadband access will spur business development in our community. The Southwest Wisconsin Regional Planning Commission recently indicated in their Community Economic Development Strategy that lack of broadband is one of the largest inhibitors of job creation and economic development in our community. In addition, embarking on this project will save as many as 25 positions in parts of the county where businesses are leaving due to the lack of broadband including local sawmills, agriculture supply centers and private entrepreneurs