

Broadband USA Applications Database

Applicant Name: Cedar Falls Utilities

Project Title: CFU Broadband Expansion

Project Type: Last Mile Non-Remote

Executive Summary

Q8 - Executive Summary 1. Opportunity Being Addressed Cedar Falls Utilities (CFU) currently operates a hybrid fiber coax (HFC) system serving nearly all homes and businesses within the city limits of Cedar Falls. This system has been operational since 1996 and provides broadband service of up to 100 Mbps. If funded, CFU intends to extend their broadband capabilities into an 89 square mile rural service area immediately north and west of the current HFC system boundaries. This new broadband system will employ a combination of state of the art broadband wireless (WiMax) and fiber to the premises (FTTP) technologies. In doing so, CFU would increase the availability, affordability and adoption of broadband services and speed in rural Black Hawk, Butler and Grundy counties. 2. Service Area Description The proposed service area covers the rural service area of the CFU electric system that is outside the city limits of Cedar Falls. The service area can be characterized as: Rural: The proposed service area covers approximately 89 square miles in western Black Hawk County (including portions of Butler and Grundy counties). 100% of the proposed service area meets the rural definition in the NOFA. Underserved for Broadband Today: A statistically valid mail survey was conducted in July 2009 and determined that just 5.4% of households in the proposed service area subscribe to broadband Internet access (768K downstream or greater). 3. Households and Businesses Passed By expanding the CFU broadband system to the rural and under-served areas of Black Hawk, Grundy and Butler Counties, an additional 711 households, 42 businesses and 214 farms, would have access to broadband. 4. Community anchor institutions involved with project The rural area that CFU is targeting is situated between major population centers and is very sparsely populated with approximately 10 households per square mile. CFU sought out anchor institutions with who they could partner with on the proposed project, but none could be found that met the criteria listed in the NOFA. 5. Proposed Services CFU intends to offer a comprehensive suite of high speed Internet services over the proposed wireless and FTTP systems. The entry level FTTP Internet service will offer 10 Mbps downstream and 1 Mbps upstream for \$50.00 per month. While the WiMax system will not have the total bandwidth capabilities of the FTTP system, CFU will still offer much more advanced capabilities than are available in the proposed service area. The WiMax service offering will be a priced at \$50.00 for up to 5 Mbps downstream and 1.5 Mbps upstream. 6. Approach to non-discrimination and interconnection obligations CFU, as a BIP/BTOP applicant, commits to the following Nondiscrimination and Interconnection Obligations: • Adherence to the principles contained in the FCC's Internet Policy Statement (FCC 05-151, adopted August 5, 2005) • Not showing favoritism to any lawful Internet applications and content over others • Displaying any network management policies in a prominent location on its web page and providing notice to customers of changes to these policies (awardees must describe any business practices or technical mechanisms they

employ, other than standard best efforts Internet delivery, to allocate capacity; differentiate among applications, providers, or sources; limit usage; and manage illegal or harmful content) • Connecting to the public Internet directly or indirectly, such that the project is not an entirely private closed network • Offering interconnection, where technically feasible without exceeding current or reasonably anticipated capacity limitations, on reasonable rates and terms to be negotiated with requesting parties

7. Broadband System The proposed system would use a combination of FTTP and WiMax technologies to achieve the optimal cost / coverage balance for the proposed 89 square mile service area. As a broadband architecture, FTTP has an inherent ability to dramatically improve the level of Internet access service available to approximately 350 households in Black Hawk County. As the research has shown, there is nearly a complete lack of broadband service (768Kbps or more) availability in the proposed service area. With FTTP, CFU could deliver each premise up to 100 Mbps over time as the demand for Internet bandwidth continues to climb. CFU intends to deploy the Gigabit Passive Optical Network (GPON) standard in the FTTP service area. Furthermore, the bandwidth advantage of FTTP can be extended to the upstream path (data sent from the home to the network) as well by providing Internet tiers (different classes of service each priced differently) with symmetric (same speed for both uplink and downlink data streams) or near symmetric bandwidth. WiMax technology will be deployed to serve all households, businesses and farms outside of the FTTP target areas. CFU will deploy a wireless platform compatible with IEEE 802.16d and provides a full upgrade path to future releases of the WiMax family of standards. WiMax technology offers the capability to deliver up to 23 Mbps services in ideal radio frequency conditions, but the proposed WiMax system has been engineered to comfortably support speeds of 1 Mbps to 5 Mbps best effort to end users within five miles of the closest base station. This level of service will be a marked improvement over what is available to these customers today.

8. Organizational Track Record As an existing broadband system operator, the CFU staff is highly qualified to deploy BTOP funds to expand the system and deliver upon the stated project goals. The current broadband system has been operational for over 13 years for video services. CFU was also the first provider to offer high speed Internet service in the city of Cedar Falls, beginning in January, 1997. Since that time, it has achieved the following operating milestones that serve as evidence of the successful performance of the management team: • First municipal communications utility deployment in the state of Iowa • Increased the maximum available broadband speed from 28Kbps to 4Mbps when it launched cable modem service in 1997. • Offered dedicated fiber connections to businesses, also starting in 1997, at 10 mbps. • Achieved 73% penetration rate of homes passed by the system. • 80% of Internet households in Cedar Falls subscribe to CFU's broadband Internet service • Customers pay no more than \$40.00 per month for cable modem broadband – 8 mbps down and 768k up. Those speeds for the standard residential Internet product will be increased late this year to 12 down and 1 mbps up, without a price increase. Cable television also customers enjoy a \$5 per month multi-service discount. CFU has a solid track record for making infrastructure investments ahead of the incumbent providers in Cedar Falls. While CFU launched their broadband service line up in 1997, no other provider offered broadband to Cedar Falls residents and businesses until more than four years later, when the incumbent cable company introduced cable modem service. DSL from Qwest became available in limited parts of town in 2003, and is still limited to 1.5 mbps down in many locations within the city.

9. Overall infrastructure cost of the broadband system. The total capital requirement for this project is \$1,709,000. This represents all capital required to design and build the proposed FTTP network and WiMax base

stations to pass all homes, businesses and farms in the proposed service area. This also includes all subscriber equipment and installation services required to connect the projected number of locations on the system. Based on the most recent estimate of 908 potential homes, businesses and farms, this equates to an average per premises investment of approximately \$1,882 per passing for the proposed service area. Such a cost would make the project infeasible if not for the 80% match offered through the BTOP program. With the BTOP matching contribution, the project is feasible and CFU will actually be able to pay their capital contribution to the project out of operating cash flows reflected in the current budget.

10. Subscriber Projections The results of the recent mail survey were used to develop the subscriber projections for the new FTTP and WiMax services that will be offered in the proposed service area. CFU received 450 responses to the mail survey that was sent to 959 active electric customers in the rural service area. The results showed a complete lack of broadband availability and an intense interest in buying Internet and cable television services from CFU (with 69% expressing their desire to pay \$100 to connect and \$49.95 per month for Internet service). The following subscriber projections are based on the results of the mail survey.

	Year1	Year2	Year3	Year4	Year5
FTTP Internet	51	108	169	193	218
FTTP Cable	51	108	169	193	218
WiMax Internet	87	166	221	262	276

11. Number of jobs estimated to be created or saved as result of this project. The system would involve the permanent creation of one field tech position and a number of contractor jobs related to the construction of the networks and installation of the end user connections. The construction of the system, and the initial customer installation activity would bring approximately six full time equivalent contract positions into the community for the first 12 months of construction and installation activity.

12. BIP versus BTOP Program Applications CFU has determined that this project is only feasible under the 80% grant provisions of the BTOP program.