Broadband USA Applications Database

Applicant Name: X-PRESS NET

Project Title: Big Country Communications Cooperative - Rural West Texas

Project Type: Comprehensive Community Infrastructure

Executive Summary

Big Country Communications Cooperative (Big Country), a West Texas-based consortium of hospital and emergency medical services (EMS) organizations is making this application with its managing partner, X-Press Net, Inc. (XPN). Big Country is a 501c(3) corporation seeking $5.196 million in grant funding from the Broadband Technologies Opportunity Program (BTOP) to build and operate an open access middle mile network in West Texas leveraging state-of-the-art microwave radios. a) This middle mile project is designed to bring broadband at needed speeds to key anchor institutions, 11 regional hospitals and EMS organizations, in unserved and underserved portions of 9 counties in western Texas. The combined area of these 9 counties is 8,265 square miles with 202,880 total residents. This area has seen limited investment in infrastructure largely because the population density is insufficient to deliver a return on investment consistent with traditional provider business models and share holder demands. A Texas-based middle mile operator, LeaseNet Networks (LNN), states it would not enter the middle mile market place in this area without an infusion of stimulus funds. The proprietary nature and closed access of the limited fiber optics in the region creates further barrier to entry. The result is a lack of competition which results in extremely limited availability of broadband in low density areas, inadequate capacity, and a high cost of service for consumers and anchor institutions. Additionally, this portion of west Texas is one of the areas in the state that is most vulnerable to tornadoes. The region is home of Dyess Air Force Base, a B1 bomber base. The proposed solution will provide for an important redundant communications backbone, complimenting other Federal grant proposals, potentially needed in times of emergency or disaster. b) The Big Country network covers the nine West Texas counties of Jones, Shackelford, Eastland, Callahan, Taylor, Nolan, Stonewall, Haskell, and Throckmorton and the rural communities contained therein. The Big Country service area covers 182 unserved and underserved census tracts. Regional and county hospitals in this area serve as the anchor tenants and will use the broadband services to connect each of their respective hospitals and to offer mobile ambulatory care to allow patient triage during prolonged rural inbound ambulance transport. In addition, first responders will have access to this high-capacity, fully redundant infrastructure. c) The proposed service area contains approximately 33,282 households, representing 84,962 non-urban individuals, as well as 3,500 plus businesses. d) Big Country's core anchor tenants are 8 regional/county hospitals and 3 emergency medical services (EMS) organizations. All public safety agencies will be provided priority access to this network. These 11 core anchor tenants are contributing access to their existing structural towers for mounting the required Middle Mile backbone, thereby reducing costs significantly. There are also 3,500+ businesses, 107 primary and secondary education institutions, 20 libraries, 80 health and medical services entities, and 300 local and county government offices within the service area. In addition, there
are multiple green energy windmill farms (including some of the largest in the U.S.) that we will offer commercial broadband services. Letters of support have been sent and received from the 8 hospitals' and 3 EMS organizations' administrations, and we have support of the small communities within the coverage area. e) Specifically, the project will execute the following four actions: 1) Build broadband capacity by establishing an open access, fully redundant, middle mile network spanning the nine county area and connecting to core Internet backbones in Abilene; 2) Build needed regional hospital-to-hospital Middle Mile backbone connectivity and thus make it possible to deploy lifesaving telemedicine products and services (such as telestroke for acute stroke treatment) for hospital and home-based needs, 3) Create a middle mile mobile wireless infrastructure supporting each of the regional hospitals to support both ambulance emergency mobility connections and other public safety redundancy, utilizing a microwave wireless backhaul network spanning the service area and connecting to fiber in Abilene; 4) Establish pilot applications in regional Geographic Information Systems (GIS), pandemic management network, and library services interconnection. f) Big Country is committed to the creation of an open access, vendor neutral network. This commitment has been a hallmark of the Big Country concept since its inception in mid-2009. Big Country acknowledges and concurs with the principles of non-discrimination and interconnection as set forth in the NTIA Notice of Funding Availability (NOFA). Big Country will publish its commitment on its web-site, and our operating partner, XPN, must accept these same obligations. XPN will ensure that its customers can: a) Access the lawful Internet content of their choice; b) Run applications and use services of their choice, subject to the needs of law enforcement; c) Connect their choice of legal devices that do not harm the network; and d) Choose between competing network providers, application and service providers, and content providers. g) The Big Country proposal consists of a high-capacity, fully redundant, state-of-the-art, 1 Gigabit per second microwave backbone and backbone extensions. We will leverage state-of-the-art Digital Video Broadcast (DVB) technology, which will allow increased capacity for last mile providers. All of these elements combine to provide a robust, high capacity communications infrastructure for our service area. Carrier grade electrical and electro-optical components will be used throughout the project. Fiber optic-based services will connect into the network from a hub location in Abilene. An aggregate of 1.2 gigabit capacity is planned for ambulance to hospital services. Each hospital will have a dedicated 100 Mbps redundant backbone to provide life saving emergency intra-hospital voice, video and data connectivity, even if catastrophic failure of the entire telecommunications and internet grid should occur. h) Big Country is a 501c(3) nonprofit corporation that has been working on this project for over six months. Its board is comprised of highly experienced individuals in the emergency services field. We have chosen to combine our regional understanding and mission with our strategic partners' existing capabilities, drawing on the strengths of an established middle mile operator and other support services. Strategic Partners in this venture include experienced microwave engineering services and program management (Falcon), experienced middle mile telecommunications build out and operations management (XPN), experienced telemedicine services and support (LifeBot), and a public company that has financed and managed both U.S. and international telecommunications operations (China Voice Holding Corp). Grant compliance and reporting will be handled by the consortium. i) The project cost, to build the infrastructure outlined in this grant application, is $7.423 million. Big Country has secured a commitment for $2.227 million in matching funds from China Voice Holding Corp. j) Our strategy is to address the transport portion of the telecommunications value chain and to provide retail commercial services, beginning with the 11 anchor
tenants. It will serve as an open access wholesaler for organizations that use or resell large blocks of bandwidth and related services. Identified strategic customers and alliances include cellular carriers, regional green energy windmill farms, anchor institutions such as hospitals, first responder organizations, K-12 schools and community colleges, municipalities, and last mile providers, both incumbent and new entrants. k) This project will create 44 jobs in the equipment, construction and manufacturing sectors, with an additional 26 indirect jobs. The basis of these estimates is the work of Dr. Raul Katz, Director of Business Strategy Research at the Columbia Business School, who estimated the impact of broadband stimulus spending in February 2009. In addition to direct and indirect jobs associated with network construction and operation, the network supports job growth by enabling diversification of the regional economy beyond traditional seasonal occupations. Emergent areas include the creative economy, micro-business, and entrepreneurship, green energy development and the rise of a distributed workforce. Regional economic development organizations have recognized the existing regional broadband limitations and the dire need for open access middle mile infrastructure, as defined by Big Country, and all agree this is a key enabler of essential economic diversification.