Broadband USA Applications Database

Applicant Name: Poplar Bluff Internet, Inc.

Project Title: 200% Green SE Missouri Last Mile Wireless Project With Solar Power & Wind Turbine Smart Grid System

Project Type: Last Mile Remote

_____Executive Summary_____

PROJECT OVERVIEW Poplar Bluff Internet, Inc. (PBII) proposes to build a "200% Green", 790 sq mile broadband wireless network to remote, unserved rural areas mostly in the Missouri county of Butler and covering portions of northern Dunklin, southwest Stoddard, northeast Ripley, and southeast Carter. This network will provide broadband Internet access for rural households, as well as farmers and rural businesses. Depending on the distance from the customer to the tower, customers can access speeds as high as 3mbs. PBII has designed a "200% green" broadband wireless project which not only promises to bring affordable broadband services to unserved and underserved areas in rural Missouri, but also may provide a replicable model for cost-effective, environmentally friendly broadband deployment. WHAT IS "200% GREEN"? The "200% Green" moniker is applicable due to this project being engineered to generate twice the amount of power needed with the the excess put back into the electrical grid through net metering. PBII expects to serve over 1500 new, unserved broadband citizens via this network within three years of the grant. PBII has identified and mapped, via GPS coordinates, the location of almost 700 citizens who have identified themselves as wanting broadband service (over 100 of those have volunteered land for a tower on their property). Project addresses these NOFA RUS BIP & BTOP goals: Remote areas (100%) Unserved area (over 91%) Underserved area (100%) Shovel-Ready Open-Access (already doing this) 3mbs Internet access available Qualifies as 100% American Made Products 200% Green Energy Project hooked to Smart Grid TOWER NETWORK DESIGN Each of the 31 proposed towers will be non-lighted, 150’ guyed towers made with 100% American Steel. Towers will be located between 3.5 and 6 miles apart based on terrain. Each customer premise radio can connect line-of-site up to 6 miles and non-line-of-site up to 3 miles. With this network, each customer should be within the coverage area of at least 2 access points with potentially four available. The mesh-network is self-healing and will route around disabled towers. In addition, we propose twenty 100’ tilt-up monopole towers with repeaters that can be installed in dead-zones in the valley’s of the hill-country for small cells of customer. The backhaul bandwidth will be initially injected into the network at six Gateways and that bandwidth propagated out across the mesh network. As demand increases, any node can be converted into a Gateway to inject more bandwidth into the system. This provides a flexible and powerful growth platform for the network. Each tower will use unlicensed radio frequencies of 5.8GHz, 2.4GHz and 900MHz to facilitate a complete coverage area. PBII also has a 3.65GHz license should the need arise. SERVICE AREA CLASSIFICATION – REMOTE & UNSERVED All of the areas of this proposal qualify as "remote areas" as defined by the RUS and NTIA. The largest city within 50 miles of the service area is Poplar Bluff with a population under 17,000. The area as a whole qualifies as 100% unserved as

defined by the RUS and NTIA. PBII's "I WANT BROADBAND" CAMPAIGN & RESULTS To date almost 700 citizens have responded to PBII's "I Want Broadband" campaign on radio and billboards in the surrounding Poplar Bluff area. The GPS coordinates of each citizen's home or business have been entered into our system and a pushpin on our Google Earth map. We are entering more than 5 customers per day into our system. SHOVEL-READY PBII is in prime position to begin building these towers. Five of the tower sites are ready to break ground, 13 are in various stages of negotiations and 13 are preliminary sites. The first five sites can be constructed and serving customers with new broadband service within three months of granted funds and completion of all 31 towers is projected to be only twelve months. OPEN-ACCESS NETWORK PBII is a firm believer in Open-Access networks. This project will provide a non-discriminating, open-access platform for other ISPs to utilize the network and provide a profitable path for both PBII and the competing ISP. Since inception, PBII has practiced an open-access policy allowing other competing Internet companies to utilize PBII facilities to provide access to their customers. PBII currently has four companies that use their Open Access services of hosting, DSL, Dialup and wireless services. "200% GREEN" ENERGY PROJECT A 2.4kW wind-turbine will be installed on the 150' towers connected to the Smart Grid in exchange for an easement to place the tower on the landowner's property. This includes complete installation into landowner's home power system and the grid. Net Metering is mandatory in Missouri. Typically southeast Missouri areas cannot justify the expense of a wind turbine system, but adding an incremental cost to this overall project shows that the wind turbine is cost effective. Solar panels and battery system will be used as primary power source to the tower equipment for a 200% Green Project. Backup 110v electrical service, supplied by the landowner, will keep tower operational should the solar power fail. This proposal has been engineered to generate twice the amount of power needed with the excess put back into the Smart Grid. In addition, each wind turbine will be equipped with a monitor device to record the energy generated. This project will provide 31 specific data sets of valuable information for researchers on southeast Missouri's wind-power potential. Due to cost constraints, the twenty repeater cells for dead zones will solely rely on power from the landowner. PRICING PLANS Customers will select from multiple levels of service including 768kbs, 1mbs, 2mbs & 3mbs for $33.95, $39.95, $49.95, $59.95 respectively. Topography and tree coverage can prevent some households from receiving the higher speed service. PBII has found that a flexible pricing plan is best to meet the customer's need. Customers who want broadband service for email and general browsing will be able to purchase a service level of 256kbs for only $23.95/month. QUALIFIES AS 100% MADE IN THE USA Towers will use 100% American Steel. American suppliers and companies that have aided in the financial information and possibly used for this project include SkyPilot, Ubiquiti Networks, semo Towers & Climbers, Southwest Windpower, Tessco, Tranzeo Wireless, Streakwave, Affordable Solar, Wincomm, GlenMartin, American Tower Corporation and Double Radius. EMPLOYMENT INFORMATION – 10 Jobs Created or Saved In addition to adding new business and home-based opportunities to rural Missourians, PBII and the tower sub-contractor will hire at least five new employees to help erect and maintain the new towers, install customer premise equipment and provide phone and on-site technical support for the customers. PBII speculates that this proposal will additional save 5 American jobs at the various companies because of this project (including employees of PBII). REPLICABLE BUSINESS MODEL This project has been deemed a good prototype solution for rural communities and may be replicable throughout the state and nation.