

C. Executive Summary

Executive Summary of Project for BIP and BTOP:

8. Infrastructure Projects Executive Summary

TewaCom Broadband Initiative

Executive Summary

Phase 1-Upper Rio Grande Valley

Reliable, inexpensive broadband services are increasingly important for governments, businesses, educational institutions and health providers, as well as for individuals simply trying to navigate modern society. Yet Northern Rio Grande Valley remains a telecommunications backwater. The lack of adequate broadband services in Northern New Mexico limits and hampers economic development and access to modern services. A variety of reasons are given for the lack of broadband services: the rural nature and low population density of the Rio Grande and Chama valleys; the relative poverty, and topographical and landownership problems. Whatever the reason(s), the local people and institutions are not only underserved, but often unserved. The "digital divide" is a chasm in Northern Rio Grande Valley. The Pueblo de San Ildefonso (Pueblo), through its federally chartered San Ildefonso Pueblo Enterprise Corporation (SIPEC), formed Tewa Communications (TewaCom) to address these issues. In the last three years, TewaCom, aided by an RUS grant, developed and implemented a reliable, inexpensive wireless system that has brought Broadband service to 250 previously unserved customers both inside and outside the Pueblo. The evolution of TewaCom and the funds acquired under this proposal will potentially enable a quick expansion of service being offered to 2405 additional households, 35 Business and 23 strategic institutions. Many of these households, businesses and institutions are currently unserved and all are underserved. This project will be an important part of an incremental regional approach to overcome persistent barriers associated with rural broadband deployment in Northern New Mexico. For example, this project will directly support economic development efforts currently being implemented by Regional Economic Development Initiative (REDI), including job creation through home-based or location-neutral businesses.

Tewa Communications currently has two full-time employees and expects that this grant will result in SIPEC adding thirty-five new employees in the next three years in addition to supporting economic capabilities in its coverage area that will result in the saving and/or creation of additional jobs. Direct job creation includes approximately ten full-time construction workers to install infrastructure for this project, five full-time employees at SIPEC's Quail Canyon RV Resort, which is predicated on the provision of broadband and an additional forty jobs created from San Ildefonso solar and geothermal energy projects slated for development during the project period. These projects will depend on TewaCom services in order to fully develop their business models. REDI projects have the potential of creating over a 25 year period, approximately 5,105 jobs in Northern New Mexico if the right kinds of infrastructure and incentives are available. These jobs will come from a variety of sectors such as renewable energy, technology, health care, tourism and media sectors. Affordable, widely available broadband is a necessary infrastructure component of job development and this project is an important piece of the

required infrastructure. San Ildefonso Pueblo's infrastructure is one component of a regional open network for northern New Mexico that seeks to address the following opportunities:

TewaCom has the people, facilities and operational tools to achieve the aggressive goals in this proposal. Resumes of key individuals are attached in the supplemental section. All have significant business and operational experience in telecommunications. TewaCom is a fully Authorized Motorola Canopy Wireless Broadband Service Provider. It currently provides reliable, cost effective service to 250 subscribers. It regularly adds new customers, fixes common technical problems, provides customer support and maintains customer accounts. Its growth has been steady and is poised for significant additional growth.

TewaCom personnel have deep experience with the delivery of internet service over a wireless infrastructure and are proposing industry standard solutions for service expansion. The major obstacles for growth are the lack of capital for equipment and acquiring sufficient bandwidth. Obtaining funding through this proposal will allow TewaCom to overcome these obstacles. This proposal includes four immediate impact (shovel ready) projects. A Rio Arriba tower, an El Rancho tower, an Edges tower and a Northern Santa Fe County tower. All have been mapped, bid and surveyed. Equipment specifications have been developed for immediate deployment of communications. Towers will be located on Pueblo reservation lands, are approved by the Pueblo government and will be ready to support deployment of access point hardware as soon as they are built. All towers will be capable of being equipped with multiple layers of radio, emergency services Wi-Fi mesh transmitters and cellular equipment. New service delivery will begin within 90 days of funds availability. TewaCom will offer households of the Upper Rio Grande Valley high-speed internet service value packages ranging in price from \$14.99 to \$79.99 per month. TewaCom is also exploring the idea of offering additional services to customers by opening its network infrastructure to other service providers. In summary, this proposal asks the grantor to fund the Customer Premise Equipment (CPE), central office equipment, towers, tower based equipment and acquisition of additional backhaul equipment. With the CPE funding, TewaCom will have the greatest and most immediate impact in bringing high-speed internet to the unserved and underserved households of the Upper Rio Grande Valley. Funding of this proposal will convey immediate benefits to Northern New Mexico households, strategic institutions and businesses.

Proposal Implementation

Population coverage for the four towers: 2405 households, 23 strategic institutions and 35 businesses

Estimated Take Rate 50% in 36 months: 1203 subscribers

Bandwidth needed: 75 Mbps

Local jobs directly created or maintained: 35

Outside Plant (4) towers (includes tower construction and road construction costs)
\$450,300

Buildings facilities at towers \$42,000

Solar equipment for four sites (iPower PV Solar Power System) \$64,000
Network and Access equipment costs i.e.: AP's, backhauls, routers, etc \$186,550
Customer premise equipment: \$375/unit for 1200 homes and routers \$521,600
Estimated Phase I cost: \$1,264,450
Cost per household: \$525