

Broadband USA Applications Database

Applicant Name: NPG Cable, INC

Project Title: RFoG from St. Joseph MO to Grayson MO Project Number MO0164454

Project Type: Last Mile Remote

Executive Summary

NPG Cable's technology investments have been an important element for economic development in Northwest Missouri for more than a dozen years. The surrounding rural communities of St. Joseph, MO, are prime areas in need of connectivity for high capacity broadband services supporting healthcare for telemedicine, education, government and commerce. NPG Cable has invested in the core and back office infrastructure along with significant network assets, benefitting taxpayers with the lowest possible cost to reach these rural, low density areas. The proposed expansion of the broadband initiative is shovel ready and can put numerous Missourians to work immediately. NPG Cable is currently working with local medical and educational institutions to for planning and launch of a multi-year deployment of high speed wired & possible wireless broadband Internet and commercial grade high capacity transport for institutions in selected population areas . However, meeting the broadband needs of areas that are un-served and rural has presented a challenge in the past, even with a more cost effective wired & wireless solution, due to the lack of population density. In many of these cases there is not a sustainable business model that would justify the investment of risk capital. However, with the RUS Broadband Initiative Plan (BIP) and NTIA Broadband Technology Opportunities Program (BTOP) grant support, NPG Cable proposes the addition and expansion of the fiber network and potentially wireless providers and connectivity points to its broadband initiative, providing an opportunity to meet the broadband needs of the un-served institutional, business and residential stakeholders in rural Missouri. a. Opportunity the proposed system seeks to address NPG, through partnerships with, public entities, hospital, schools and Universities, will leverage existing fiber builds to extend to multiple rural areas. This expansion would provide a Fiber Optic to the Home or RF over glass Broadband, Voice and Video solution for rural customers including an effective carrier-grade data transport for medical, educational, municipal and business customers. b. A general description of the proposed funded service areas (location, number of communities, etc.) The Project area, MO0164454 will extend fiber from St. Joseph, MO to Grayson, MO via 169 HWY. c. Number of households and businesses passed. There are approximately 730 homes passed and 12 businesses located in the submitted project area. d. Number of community anchor institutions, public safety entities, and critical community organizations passed and/or involved with project (e.g., health care, education, libraries, etc.) We have discussed with the local community leaders the connectivity opportunities we are willing to provide to the communities along with access for telecommuters and access back to the larger communities and other public service organizations if needed. e. Proposed services and applications for the proposed funded service areas and users We currently offer commercial and residential video, high speed data and voice services. In addition, we have discounted bundled services of two or more of the offerings. f. Approach to addressing the non-

discrimination and interconnection obligations. NPG has and will build into projects the capacity to accommodate the non-discrimination and interconnection obligations as described in NOFA.

g. Type of broadband system that will be deployed (network type and technology standard) We have standardized on RFoG (RF over Glass) with a built design for GEAPON (Gigabit Ethernet Passive Optical Network). The RFoG technology will deliver DOCSIS based Data, Voice and up to 1 GHz of Video services to residential and commercial customers in the rural areas. NPG chose a fiber transport, over typical copper because fiber is more reliable than copper-based networks. Humidity, temperature, lightning, galvanic corrosion and other conditions all take their toll on coax and twisted-pair networks over time. Fiber, while not indestructible, is inherently immune from metallic problems. NPG has been deploying RFoG over the past year and have noticed a considerable drop in maintenance and service calls for subscribers. Another distinct advantage of a RFoG networks is that its architecture supports technologies that can deliver additional services. The single-fiber passive optical network used by RFoG is the same as PON systems, like GEAPON or 10GEAPON. By using the same fiber infrastructure a PON system can overlay the RFoG network, enabling advanced business services with gigabit bandwidth and rich Ethernet capabilities.

h. Qualifications of the applicant that demonstrate the ability to implement and operate a broadband infrastructure, and/or be a sustainable broadband service provider. In the over 40 years of NPG's existence, our company has built over 700 miles of new construction and supplied Data, Voice and Video to over 100,000 subscribers, with this experience NPG understands how to get projects completed and sustained for many years. The relationships we have developed with our Contractor, MODOT, Utilities, City and County Officials, Engineers, and Design Team gives us the working relation to complete projects in a very reasonable time period. NPG has extensive experience with working with MODOT, Local Communities, Utilities, Counties and Private Property owners. We fully understand the process it takes to utilize State, Local and Private Right of Way's.)

i. Overall infrastructure cost of the broadband system Based on our project cost models we have budgeted approximately \$2.2M for the project.

j. Overall expected subscriber projections for the project. We expect of the 880 homes passed a customer penetration rate for our services of basic cable – 40%, High speed data – 60% and voices services of 18% .

k. Number of jobs estimated to be created or saved as a result of this project. Our network installation contractor has estimated adding 6 positions for this particular project to complete the work on schedule. In addition we plan on adding 2 positions for supporting the initial build and ongoing back office support functions. This broadband project will require labor and materials from many companies. Multiple local construction and supply companies will provide: civil engineering, surveying, concrete, rock, fencing, electrical supplies, road crossings, and communications facilities. This broadband project will require labor and materials from many companies. Multiple local construction and supply companies will provide: civil engineering, surveying, concrete, rock, fencing, electrical supplies, road crossings, communications facilities and potential towers. High tech equipment will be purchased from broadband companies such as: All Optics, PCT International, Adtran and Zhone technologies, etc.