

## Broadband USA Applications Database

**Applicant Name:** Tel Serv Communications

**Project Title:** Northeast South Dakota Rural Broadband Project

**Project Type:** Last Mile Non-Remote

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### Executive Summary

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Opportunity the System Will Address The Northeast South Dakota Rural Broadband (NESDRB) Project represents a collaborative effort between Tel Serv Communications of Aberdeen, South Dakota, and the Northeast Council of Governments (NECOG). The purpose of the NESDRB project will be to provide last-mile, non-remote services, in order to create a robust and interconnected wireless broadband super-highway linking rural underserved census communities within twelve (12) contiguous counties in order to provide superior service to the citizens of Northeast South Dakota. The project service area is 100 percent rural, and 79 percent underserved. General Description of Service Area The primarily rural Northeast region represented in this proposal is a significantly underserved region, encompassing the 12 county service area counties. The total service area is 100 percent rural, and represents a population of 62,283. The exception to this are the population centers of Aberdeen which is considered "served" and non-rural, and therefore, not included in the project area. To each of the census communities we will provide last-mile non-remote services. Number of Households, Businesses, Community Anchor Institutions, Public Safety Entities, and Critical Community Organizations The service area represents a total of 13,361.25 square miles, encompassing a 12-county area in Northeast South Dakota. The population of the service area is 62,283, including 28,313 households. Within this area, there are 8,129 businesses, 11 critical community facilities, 32 anchor institutions, and 11 public safety entities. The underserved total service area represents nearly 20 percent of the state's land area, presenting a challenge to providing affordable, high-quality service to the citizens of the region. Within the proposed service area, Incumbent Local Exchange Carriers (ILECs) typically represent the only choice for residents. The lack of competition is a disincentive to ILECs to provide top quality, reliable, and affordable broadband services for residents, businesses, critical community and public safety facilities, and other institutions in this underserved area. Proposed Services and Applications The NESDRB is addressing the issue of affordability, quality service, and public choice through the following statutory purposes: 1. To provide improved access to broadband service to consumers residing in "underserved" areas of Northeast South Dakota; 2. To improve access to, and use of, broadband service by public safety agencies; and 3. To stimulate the demand for broadband, economic growth, and job creation. Through contracting to erect communication towers to extend the existing fiber network, Tel Serv Communications will manage and deploy this fully "shovel-ready" NESDRB Program. It also provides affordable, high-speed broadband to tens of thousands of underserved residents currently struggling on the wrong side of the digital divide. Once completed, this project will establish Northeast South Dakota as a viable "suburb of Minneapolis/St. Paul and/or Chicago" by removing distance barriers and enhancing the core infrastructure necessary to stimulate economic growth, attracting corporations and

retaining the younger work force. In addition, free network access will be provided to all public libraries and/or community centers so that they all can be inter-connected and be provided with free Internet broadband which would include wired and wireless (WiFi) connectivity. Non-Discrimination and Interconnection The proposed project is consistent with all five of the NOFA's non-discrimination network interconnection obligation. We will negotiate in good faith with all bona fide requesting parties that wish to connect to the public Internet using our proposed network or to exchange traffic. Interconnection will occur wherever technically feasible and without exceeding current or anticipated capacity limitations. When requested to do so by bona fide requesting party, we will negotiate terms such as business arrangements, capacity limits, financial terms, and technical conditions for interconnection. If a mutual agreement cannot be reached, we will voluntarily seek an interpretation by the FCC or any FCC rules implicated in the dispute. Network Broadband Type and Technology Standard The proposed design is a hybrid network with a fiber-optics backbone core with wireless extensions to last mile access points. The wireless last mile will consist of point-to-multipoint WiMax base stations delivering a licensed 3.65GHz fixed and nomadic signal. Currently, there are no other WiMax base stations in the proposed service area operating on this frequency. At the user site, there will be Customer Premise Equipment provided to interconnect their computers and/or networks, and provide security, environmental and networking capabilities to the end points. This will operate on the licensed 3.65GHz frequency, with a 15.5dBi antenna gain and up to 20dBm transmit power. This has been chosen due to its cost effectiveness. By extending existing fiber-optic infrastructure, last mile services can be provided to citizens and businesses at a competitive rate with the same performance and reliability as wired technologies. Applicant Qualifications Tel Serv is the managed service provider for 27 local companies in Northeast South Dakota, providing out-sourced IT serves, and maintaining a full-time Network Operations Center and helpdesk. Tel Serv has an established, well-structured sales and operational support system, and works closely with partnering regional IT service providers, to include Midcontinent Communications and RTN to ensure that direct network management, provisioning, and customer care is maintained at all stages of operation. Tel Serv is experienced in providing large-scale technology refresh projects for major corporations requiring a high degree of accuracy, technological expertise, and rapid deployment and turnaround time. The leadership has several years of collective experience and credentials in telecommunications and systems engineering and management. Infrastructure Cost of Broadband System The entire cost of this far-reaching broadband system will be \$11,981,803. As itemized in Attachment G / Project budget, this cost will include: • \$4,520,156 for the network and access equipment (switching, routing, transport, access, and other expenses); • \$3,134,975 for outside plant equipment (conduits, ducts, poles, and new tower construction); • \$3,887,500 for buildings (new construction, pre-fab huts, and expansion of the data center); • \$167,850 for customer premise equipment (WiMax CPE, and tower circuit configurations); • \$5,500 for billing and operational support; • \$181,961 for professional services (engineering design and project management); and • \$83,861 for testing (coverage testing, and throughput testing). Expected Subscriber Projections A review of the NESDRB service area, which will be covered by a wireless high speed communication network, results in a total of 28,313 households in the area, of which an estimated 79 percent are underserved and in rural areas. Given deployment of a ubiquitous network, where high speed wireless connections will be available any time and anywhere, we estimate that 38 percent of these households will be interested in the service offering (n=10,759). Allowing for coverage gaps due to technology limitations,

frequency and terrain considerations, the estimated maximum number of subscribers over 3 years will be 9,145. Similarly, for small and medium-size businesses, where a total count in the NESDRB service area is 8,129, we estimate a maximum penetration rate of 12 percent or 975 businesses over 3 years. The cumulative schedule illustrated in Attachment H assumes a quarterly “net” number on a conservative, systematic growth curve. Number of Jobs to be Created This “shovel-ready” project is set to break ground immediately, pending funding approval. It will create 50 immediate high paying jobs directly involved in the implementation of the network, and 470 immediate indirect jobs in Northeast South Dakota counties supporting the initiative. The total annual economic impact created in NE South Dakota by this critical infrastructure initiative is projected to be \$22,851,104. Growth in direct annual income in NE South Dakota is projected to reach \$15,849,079. Source data:

[http://www.connectednation.org/\\_documents/Connected\\_Nation\\_EIS\\_Study\\_Executive\\_Summary\\_02212008.pdf](http://www.connectednation.org/_documents/Connected_Nation_EIS_Study_Executive_Summary_02212008.pdf) (Methodology: Proportion of state-wide data in the Connected Nations report, based on service area population as a percent of total population)